

Remote Control Growing

November 478

HIGH TIMES

SPECIAL DAB! ISSUE.

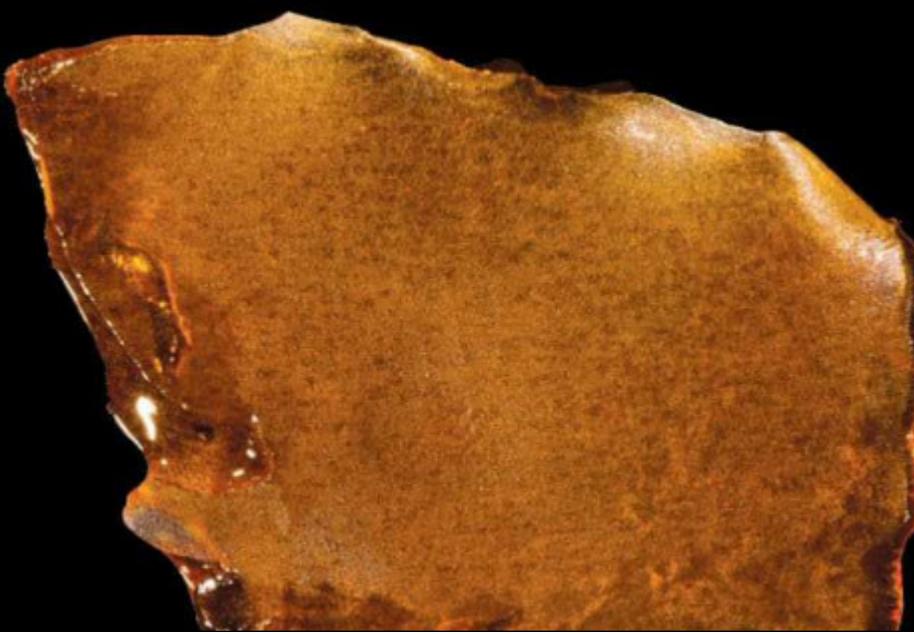
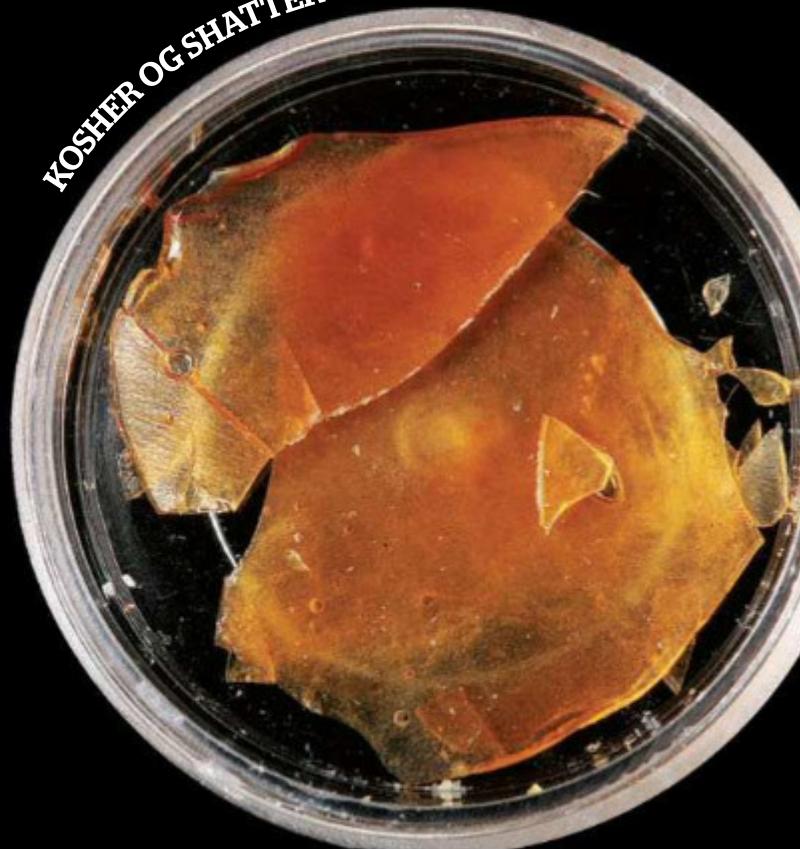
**The Wide World
Of Extraction**

**Perpetual Pot
In Arizona**

**Power Flowering
By Jorge**

**Jesse Ventura
Goes Off!**

KOSHER OG SHATTER



HIGHTIMES.COM

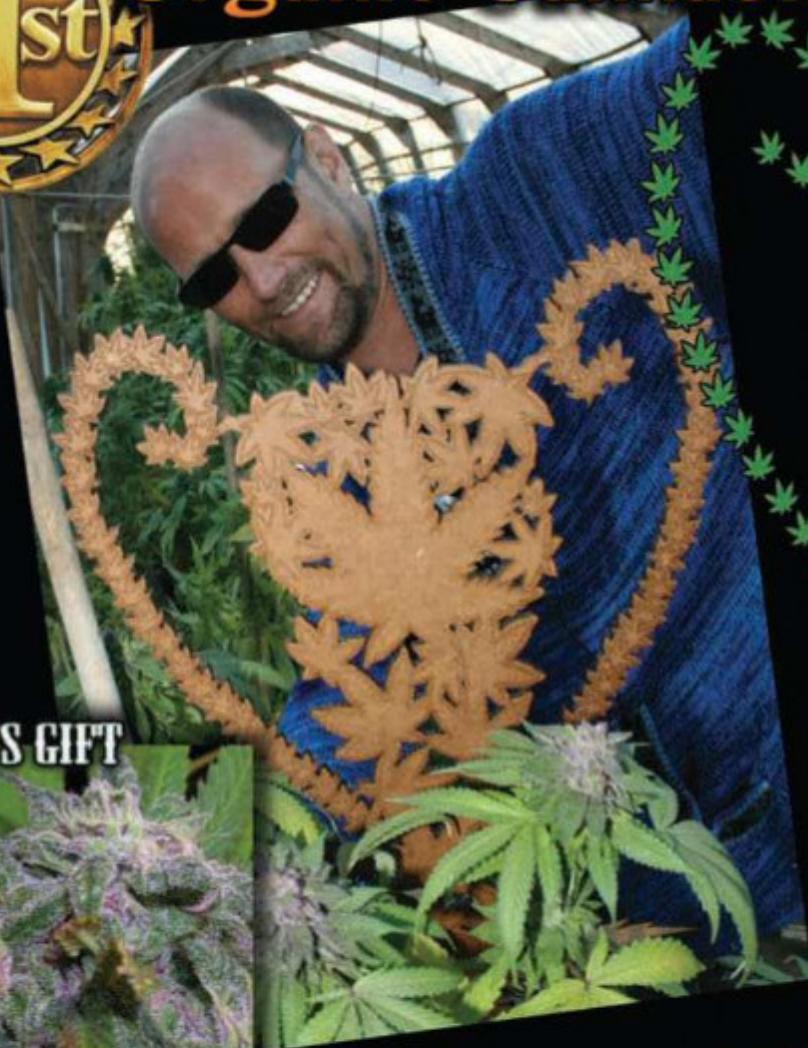
November 2015 USA \$5.99 / FOR \$5.99



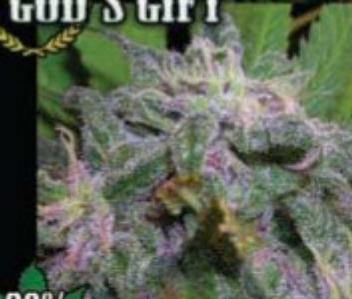
0 71896 48427 4

BC Bud Depot

First Place Winner at the 2015
Organic Cannabis Championships!



GOD'S GIFT



80% INDICA
FEMINIZED \$150

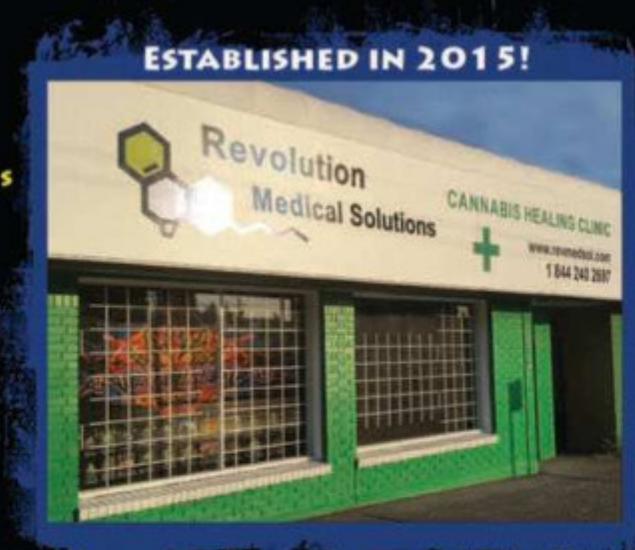
8-9 WEEKS FLOWERING

"GOD'S GIFT" WINS BIG
AT THE 2015 BIO CUP IN SPAIN

BC BUD DEPOT SEEDS
AVAILABLE HERE:

• BCBD'S OWN
REVOLUTION MEDICAL SOLUTIONS
- VANCOUVER, BC
(1-844-240-2697)

• ATTITUDE SEED BANK - UK
• JACKSON COMPASSION CLUB,
JACKSON, MICHIGAN
• THE HONEY SPOT -
LOS ANGELES, CALIFORNIA
• GTA SEEDBANK - TORONTO,
ONTARIO
• THE LEMONADE STAND -
KAMLOOPS, BC



ORDER SECURELY
ONLINE, BY PHONE
OR BY MAIL

*FREE SEEDS TO ALL CASH OR
BLANK MONEY ORDERS!

GFS INDUSTRIES
108-800 KELLY ROAD,
SUITE #471
VICTORIA, BC
CANADA V9B 6J9





1-888-40-BCBUD

(1-888-40-22283)



BC GOD BUD



75% INDICA
12-SEED PACK \$ 90
FEMINIZED \$150

8-9 WEEKS

12-SEED PACK \$ 90
FEMINIZED \$150

CBD GOD



INDICA DOMINANT
12-SEED PACK \$90

8-9 WEEKS

12-SEED PACK \$90

THE PURPS



HYBRID
12-SEED PACK \$ 90
FEMINIZED \$150

7-8 WEEKS

12-SEED PACK \$ 90
FEMINIZED \$150

BLUEBERRY



80% INDICA
12-SEED PACK \$ 90
FEMINIZED \$150

8 WEEKS

12-SEED PACK \$ 90
FEMINIZED \$150

THE BLACK



90% INDICA
12-SEED PACK \$ 75

8-10 WEEKS

12-SEED PACK \$ 75

SHIATSU KUSH



HYBRID
12-SEED PACK \$ 75

8 WEEKS

12-SEED PACK \$ 75

CBD GOD



HYBRID
12-SEED PACK \$ 90
FEMINIZED \$150

9-10 WEEKS

12-SEED PACK \$ 90
FEMINIZED \$150

CHÈM FIRE



HYBRID
12-SEED PACK \$ 75

9-10 WEEKS

12-SEED PACK \$ 75

THE BIG

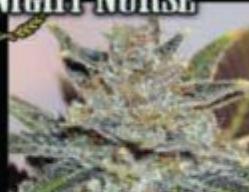


MOSTLY INDICA
12-SEED PACK \$ 75

8-9 WEEKS

12-SEED PACK \$ 75

NIGHT NURSE



80% INDICA
12-SEED PACK \$ 75

7-8 WEEKS

12-SEED PACK \$ 75

SWEET GOD



70% INDICA
12-SEED PACK \$ 75

6-8 WEEKS

12-SEED PACK \$75

TEXADA TIMEWARP



70% SATIVA
12-SEED PACK \$ 75

LATE SEPT. OUTDOOR

12-SEED PACK \$75

BC MANGO



80% INDICA
12-SEED PACK \$ 75

7-9 WEEKS

12-SEED PACK \$75

SWEET ISLAND SKUNK



90% INDICA
12-SEED PACK \$ 75

6-7 WEEKS

12-SEED PACK \$75

BC HASH PLANT



HYBRID
12-SEED PACK \$ 75
FEMINIZED \$125

8 WEEKS

12-SEED PACK \$75

FIRE OG BX3

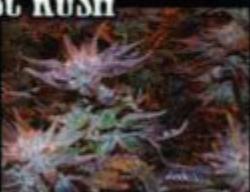


60% INDICA
12-SEED PACK \$ 75

9-10 WEEKS

12-SEED PACK \$75

BC KUSH

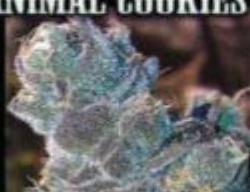


75% INDICA
12-SEED PACK \$ 75
FEMINIZED \$125

8-9 WEEKS

12-SEED PACK \$75

ANIMAL COOKIES

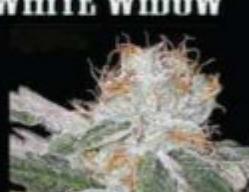


HYBRID
12-SEED PACK \$ 90

9-10 WEEKS

12-SEED PACK \$90

WHITE WIDOW

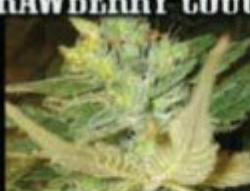


75% INDICA
12-SEED PACK \$ 75
FEMINIZED \$125

8-10 WEEKS

12-SEED PACK \$75

STRAWBERRY COUGH **SOCAL MASTER KUSH** **NORTHERN LIGHTS**



75% SATIVA
12-SEED PACK \$ 125
FEMINIZED \$125

9 WEEKS

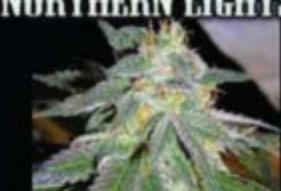
12-SEED PACK \$125



HYBRID
12-SEED PACK \$ 75
FEMINIZED \$125

9-10 WEEKS

12-SEED PACK \$75



70% INDICA
12-SEED PACK \$ 75

7-8 WEEKS

12-SEED PACK \$75

BC CHEESE



HYBRID
12-SEED PACK \$ 75
FEMINIZED \$125

8-9 WEEKS

12-SEED PACK \$75

LOWRYDER #2



AUTO FLOWER
INDICA-SATIVA-RUDERALIS
12-SEED PACK \$ 125
FEMINIZED \$125

62 DAYS FROM SEED

THESE AND MANY MORE GREAT STRAINS AVAILABLE AT

WWW.BCBUDDEPOT.COM

the king



the media



the packs



out of office



CROP KING SEEDS

World Class
Cannabis Seeds

www.CropKingSeeds.com

20 QUALITY STRAINS
TO CHOOSE FROM

www.CropKingSeeds.com

AVAILABLE ONLINE & SELECT RETAIL LOCATIONS

1844 - CROP KING (1844 276 7546)

LOCAL: (604) 563 0291

INTERNATIONAL: +1 (604) 563 0291



FEMINIZED • REGULAR • AUTO-FLOWERING • DWARF LOW FLYER

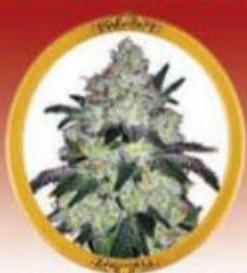
VISIT OUR WEBSITE FOR A WIDER SELECTION OF STRAINS

FIND US ON:



BLUEBERRY (REG)

10 SEEDS / \$65.00 QTY: _____
5 SEEDS / \$35.00 QTY: _____
TOTAL: _____



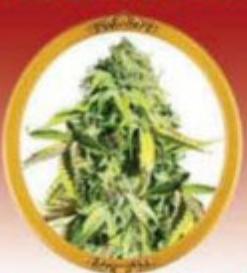
WHITE COOKIES (FEM)

10 SEEDS / \$110.00 QTY: _____
5 SEEDS / \$60.00 QTY: _____
TOTAL: _____



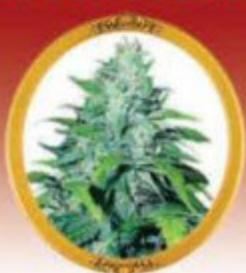
CANDY CANE (AUTO)

10 SEEDS / \$95.00 QTY: _____
5 SEEDS / \$55.00 QTY: _____
TOTAL: _____



CROWN ROYALE (FEM)

10 SEEDS / \$110.00 QTY: _____
5 SEEDS / \$60.00 QTY: _____
TOTAL: _____



DWARF LOW FLYER

10 SEEDS / \$95.00 QTY: _____
5 SEEDS / \$55.00 QTY: _____
TOTAL: _____

Strain(s): _____

Name: _____ Email: _____

Address: _____ City: _____

Province / State: _____ Postal Code / Zip: _____

(ADD \$10.00 SHIPPING FEE) GRAND TOTAL: _____

Please allow up to 2 weeks for receiving your order as we assemble all orders on a "Made to order" basis in the sequence they are received by full payment.

CKS Trading
Suite #642, 280 Nelson St.
Vancouver, B.C.
V6B 2E2
Canada

Mail your payment to:

CKS Trading

Make payment by cash or money order to:

CKS Trading



“The best place to bring fresh air into the growroom is near the floor, where air temperatures are cooler; the best place to exhaust air is near the ceiling and above the light banks, where air temps are the hottest.”

—*It's All About Atmosphere, page 67*

- 8 Internet
- 10 Editor's Letter
- 12 Letters
- 14 Contact High
- 23 Highwitness News
- CBD Conundrum,
High Five and the
Global Drug War
- 33 High Style
- 34 Entertainment
- Weedeater, Torres
& Reviews
Food (p.40)
Markets (p.42)
- 44 Gear
- 116 The Dab Department
- 121 Dear Danko
- 128 Miss High Times
- 130 Ask Dr. Mitch
- 132 Almost Infamous
- 134 NORMLizer/FFOTM
- 136 Furry Freak Brothers
- 144 Pix of the Crop
- 148 Next Month
- 154 The Pot 40

47 The 2015 Dab Report

Colorado correspondent Ry Prichard explores the “Origins of Live Resin”; California concentrate lawyer Rezwan Khan examines the nation’s “Laws of Extraction” (p. 55); and the *HT* staff reviews some of the top electronic nails on the market (p. 61).

67 It's All About Atmosphere

From temperature and humidity to CO₂, lighting, and intake and exhaust fans, your growroom's atmosphere dictates your plants' yield and potency. Today's tech can help you dial in these essential elements, making life a lot easier on your way to a bountiful harvest. *By Nico Escondido*

74 Flowering for Peak Ripeness

In this excerpt from Jorge Cervantes's *The Cannabis Encyclopedia*, the world-renowned grow guru and *HT* alum discusses the ABCs of the flowering stage, as well as tips and tricks for achieving big buds fast.

89 Good Vape Vibes

Entrepreneurs are discovering countless niches in the marketplace. Organa Labs and O.pen.VAPE have developed high-quality cannabis oils and a vaporizer pen with which to imbibe them—right down to strain-specific cartridges. *By Dan Skye*

99 Phoenix Grow Rises

Legendary grow-book author and cannabis photographer Mel Frank visits Arizona to check out a huge commercial marijuana facility that produces dozens of pounds of legal pot in a hot, dry desert climate.

109 The High Times Interview: Jesse Ventura

He's an ex-Navy SEAL and a former superstar professional wrestler. He also served as the governor of Minnesota from 1999 to 2003. Jesse Ventura has lost none of his edge, still calling out corrupt politicians and shady government doings. *By Dan Skye*

Oil Slick®

3 NEW
AWARD WINNING PRODUCTS



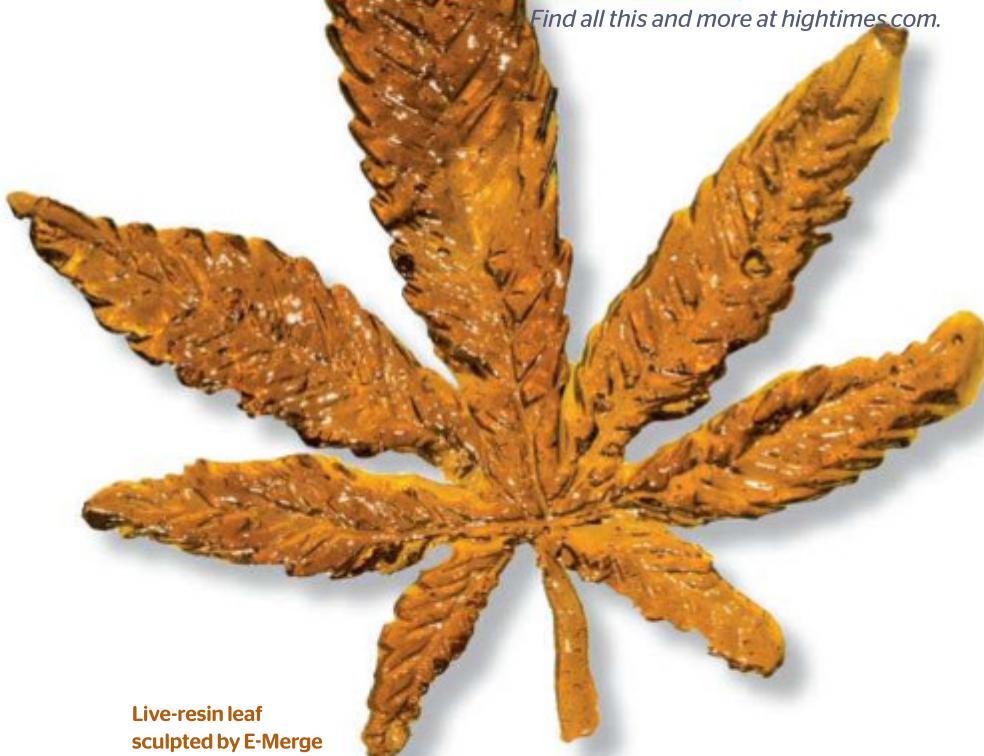
OILSLICKPAD.com

Use Promo Code "CUP15" For 20%off And Free Shipping



HIGH TIMES .com

Find all this and more at hightimes.com.



Live-resin leaf
sculpted by E-Merge

Glass Artist of the Month

Cherry Glass is a family-owned, glassblowing business in Minnesota. Scot Bennett, its star artist, recalls: "The day a spider came home in our bag of groceries was the beginning of our 'Nature Line' of pieces."

After killing the bug, he decided to incorporate the critter into his work. He electroformed it (commonly referred to as "dipping" an item in metal.) Scot says, "Anything organic is an opportunity to create art—flowers, butterflies, snakes—anything that was once living or green."

Short Minnesota summers mean that the family has only three months to collect bugs. So they gather what insects they can and acquire the rest from collectors and friends who ship the prized pipe items to them. "We also incorporate crystals, stones and Brazilian agate slabs into our work connecting everything together with different color



Scot Bennett
cherries it out!

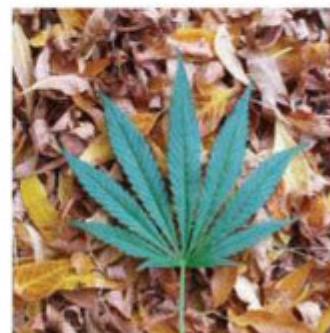
Art of the Dab

As dabbers know, the stuff you dab is sometimes gooey. But it also provides a perfect medium for the creative stoners among us. Recently, artists have begun fashioning art out of dabs! But is it really art? You decide. Check out our online gallery of concentrated creativity.



Harvest Huge!

Your outdoor garden is almost ready to be chopped down. But there's a lot more to harvest than just cutting down your plants. Learn the proper way to harvest, dry and cure at hightimes.com when it's time to reap your reefer.



High Fall

There are lots of things to do come autumn, aside from harvesting your gorgeous plants. We've got a comprehensive list of cool things to do when the weather cools off. Read our "Stoner's Guide to Autumn" this month!



Smoke Gets in Your Highs

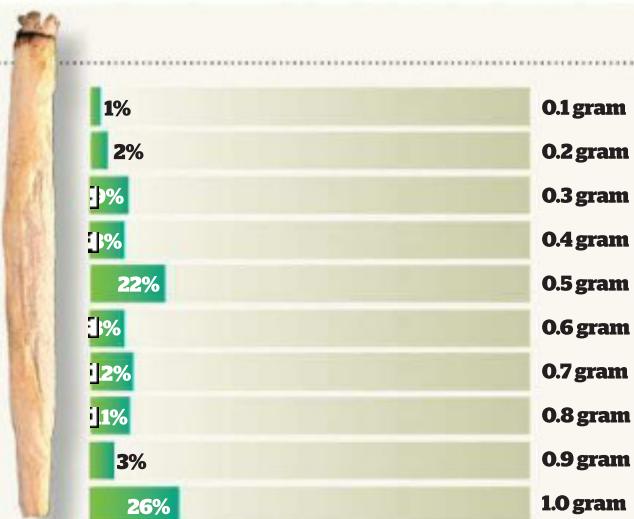
Editor-in-chief Dan Skye goes through his archives once again to present a cavalcade of cannabis users exhaling extravagantly. Check out a gallery of pot lovers dedicated to the joy of puffing.

POT POLL

How big is your joint?

In an online article on our website, author Jon Gettman examines the recent report by the Office of National Drug Control Policy, wherein researchers try to determine how much pot is in the average doobie ("Estimating the Size of A Marijuana Joint," July 15, 2015). According to the report: "Based on a variety of considerations, the amount of marijuana in a typical joint is assumed to be 0.43 grams/joint." Really? Fortunately, Jon asked readers to literally weigh in. With over 2,700 responses, most said they roll their jays bigger!

Cast your vote in our latest poll online!



WooTo Kratom

FREE DELIVERY!
(NOT VIA RAINBOW)*



**NO MINIMUM
ORDER NOW
SYNCHÉ.COM**

*Via USPS flat rate service only. Cannot be combined with any other products.

KRATOM POWDER
NOW AVAILABLE

Net Wt. 200g

NEW

*Via USPS flat rate service only. Cannot be combined with any other products.



The Wonderful World of Wax

It's been more than three years since we published our first official dab feature ("The Concentrate Revolution," Feb. '12), and in that time the culture and science surrounding cannabis concentrates has exploded (no pun intended). At every Cannabis Cup, we see throngs of young stoners sporting baseball caps studded with hatpins and mini-rigs dangling from their necks, toting Pelican cases and sucking down shatter. Technologically, we've seen the advent of closed-loop systems that are certified safe and even programmable; cold traps that capture terpenes during the purging process so that they can be reintegrated afterward... hell, there are even people who have abandoned water or solvents altogether and are making dabs using hair-straighteners and T-shirt presses (a.k.a. rosin tech).

Regardless of whether you prefer bubble hash or BHO, wax or shatter, dry-sieve or even rosin, there's one thing they have in common: They're all derived from dried, cured cannabis. All of them, that is, except for the concentrates known as "live resins," which are extracted not from dry buds and leaves, but from freshly harvested, flash-frozen plants. These aromatic, effervescent extracts are the subject of our main feature, "*It's Alive! The Origins of Live Resin.*"

Of course, as the demand for concentrates grows, so too does the number of people stepping in to satisfy it—many of whom are unskilled in the use of flammable solvents, creating a public-safety risk and drawing negative media attention. In response, law-enforcement agencies across the country are handling hash-extraction issues in radically different ways. While states like Colorado strive to institute a sensible regulatory system that benefits consumers and patients and ensures the safety of both the concentrates and those who make them, other states have predictably taken a more draconian approach. *High Times* examines these issues in our investigative article "The Laws of Extraction."

Finally, for all you concentrate connoisseurs out there who are looking to trade in your torches for a more civilized and discreet heating method, we provide a rundown of some of the top electronic nails on the market. Plus our illustrious editor-in-chief, Dan Skye, visits the headquarters of O.penVAPE, one of the nation's top vapor-pen manufacturers, to learn the secrets of their success.

So ready your rigs and fire up your torches, folks—the 2015 Dab Report is here!

Infamously yours,

Bobby Black

Senior Editor

HIGH TIMES

PUBLISHER
Mary C. McEvoy

EDITOR-IN-CHIEF
Dan Skye

MANAGING EDITOR
Jen Bernstein

ART DIRECTOR
Frank Max

SENIOR CULTIVATION EDITOR
Danny Danko

SENIOR EDITORS
Bobby Black
Mike Hughes

SORDID AFFAIRS EDITOR
Chris Simunek

CULTIVATION EDITOR AT LARGE
Nico Escondido

ENTERTAINMENT EDITOR
Mary Jane Gibson

DESIGN DIRECTOR
Roxanna Allen

GRAPHIC DESIGNERS
Stephan Austin
Jennifer Yan

SCIENCE EDITOR
Sirius J

COPY EDITORS
Rick Szkowny
Mike DiPaola

DIRECTOR OF
DIGITAL MEDIA
Zena Tsarfin

DIGITAL MEDIA EDITOR
Emily Cegielski

VIDEO COORDINATORS
Ursula Mann
Joe Schaefer

CONTRIBUTORS
Paul Armentano,
Carrie Doohy, **Mel Frank**,
Andre Grossmann, **Brian Jahn**, **K of Trichome Tech**,
Lochfoot, **Kevin Mahmalji**,
Mark Miller, **Samantha Nicholas**, **Harry Resin**,
Michael Simmons,
Allen St. Pierre

RESEARCH ADVISOR
Dr. Mitch Earleywine

FOUNDING
PUBLISHER/EDITOR
Thomas King Forcade
1945-1978

CHIEF OPERATING OFFICER
Michael Safir

ASSOCIATE PUBLISHER
Richard Cusick

DIRECTOR OF ADVERTISING
AND SPONSORSHIPS
Matt Stang

ADVERTISING REPRESENTATIVE
John McCooe

ADVERTISING MANAGER
Ann Marie Dennis

ASSISTANT TO THE
ADVERTISING DIRECTOR
Noore Yagini

COMPTROLLER
Jose A. Gallego

GENERAL COUNSEL
Cristina Buccola

DIRECTOR OF SOUTHWEST
PROMOTIONS
Cathy Baker

EVENT DESIGNER
Elise McDonough

CUP COMPETITION MANAGER
Craig Coffey

LICENSING AND PRODUCT
MANAGER
Sarah Muhlrad

EVENT DIRECTOR
Amanda Younger

EVENT MANAGER
Cori Kidney

CANNABIS POLICY DIRECTOR
Jon Gettman

OFFICE
250 West 57th Street
Suite 920
New York, NY 10107

TO ADVERTISE IN
HIGH TIMES, CONTACT:
Advertise@hightimes.com

FOR SUBSCRIPTIONS
OUTSIDE THE US, CALL:
(386) 597-4316

FOR SUBSCRIPTIONS
IN THE US, CALL:
(800) 827-0228

TO SELL HIGH TIMES
EMAIL:sellht@hightimes.com

TRANS HIGH CORPORATION

HIGH TIMES November 2015 No. 478 (ISSN #0362-630X), published monthly by Trans-High Corporation, 250 West 57th Street, Suite 920, New York, NY 10107 • HIGH TIMES and Trans-High Corporation do not recommend, approve or endorse the products and/or services offered by companies advertising in the magazine or website. Nor do HIGH TIMES and Trans-High Corporation evaluate the advertiser's claims in any way. You should use your own judgment and evaluate products and services carefully before deciding to purchase. • Mail subscriptions (payable in US funds) and changes of address (please include most recent mailing label) to PO Box 422560 Palm Coast, FL 32142-2560 • Offices at 250 West 57th Street, New York, NY 10107 • Periodical postage paid at New York, NY, and at additional mailing offices • Manuscripts must be accompanied by a self-addressed stamped envelope • All contributions will be carefully considered, but the publishers and editors assume no responsibility for loss or injury to unsolicited material • Copyright © 2013 by Trans-High Corporation. Nothing in this publication may be reproduced in any manner, either in whole or in part, without specific written permission of the publisher. All rights reserved. "HIGH TIMES," "CANNABIS CUP," "MEDICAL CANNABIS CUP," "MISS HIGH TIMES," "PIX OF THE CROP," "POTCAST" and "BONGHITTERS" are trademarks and registered trademarks of Trans-High Corporation. All advertising and advertised products void where prohibited. POSTMASTER: Please send address changes to HIGH TIMES, PO Box 422560 Palm Coast, FL 32142-2560

PRINTED IN THE USA

Get Over 5 Harvests Every Year In A Fully Automated Growing Appliance

Start Today And Have Your First Harvest In 10-12 Short Weeks



The Roomate

Big Grows In Small Spaces



The Bloombox

2 Chambers For Faster Cycles



The Producer

Flower 18 Potent Plants



Incredible Odour Control

Odour crushing carbon filters scrub the air and keep your grow a secret.



Hardcore Medical Grade Finish

Made to last, our grow boxes are built strong with powder coated aluminum.



Bud Boosting CO₂ Dosing

Control pests and get bigger yields with built in CO₂ control.



Professional & Safe Wiring

Every BCNL Grow Box is a safe, reliable growing appliance.



Easy To Use Automated Timing

One central timer controls all parts of your grow, lighting, watering, CO₂.



Award Winning Quality & Yields

With 8 HIGH TIMES Stash Awards and counting we build boxes you can trust.

Can you recognize the early warning signs of plant distress? Do you know how to fix them? Our team of grow consultants can, and when you team up with us you never have to worry about losing a valuable crop.

That's because we not only believe in building amazing grow boxes, but we also provide industry leading grow support. Support that makes sure that every harvest you pull from your grow box is an incredible one.

Our Grow Consultants Can Answer Your Questions:

1-888-236-1266

www.BCNORTHERNLIGHTS.com/hightimes



Connect at:
fb.com/bcnorthernlights

Grow Consulting Team:



Not Obama's #1 Fan

I've been reading your publication since it first started, and I've learned so much. I read every issue cover to cover. That being said, I promise that if I ever get another issue with Barack Obama's picture on the cover, I will terminate my subscription. This man is the biggest mistake in America's history. He's a disgrace to our country. I'm returning your cover because I'm particular about what I use to wipe my ass!

T. Sanford
Lake Isabella, CA

Cup Congrats

I'd like to say thanks for putting on such a great Cannabis Cup in San Francisco, and especially for the outstanding Super VIP experience that my wife and I shared. All of your staff, the writers and editors and Cristina Buccola, your general counsel, are great people, and they treated us really well.

We haven't had the opportunity to partake in cannabis given that I was in the active military for most of my adult life. After I received a medical discharge, I quickly sought out the plant for its medicinal benefits. Thankfully, a military veteran and marijuana activist in Hawaii introduced us—and the rest is history. From that moment on, I knew I wanted to be a part of the movement. This past weekend's experience put us right in the mix. I'm grateful for that. Again, thanks for the great experience, and we look forward to attending future Cups.

J. and A. Martin

The High Times NorCal Cannabis Cup was the best ever! My boyfriend and I go every year, and the Cow Palace was great! We *loved* the VIP lounge—the snacks and the couches and music. It was so nice to take a little break and replenish before venturing out again. There was so much space to walk around, and it wasn't too hot but still summery. The Steel Pulse concert was phenomenal. Everyone from *HT* was so nice—like always! All in all, the Cup was five stars this year! We love *High Times*!

A Stoner Couple
San Francisco Bay Area

Miracle Meds

I've been diagnosed with trigeminal neuralgia, which is one of the most painful afflictions there is. People

Send your letters to
Feedback c/o
High Times, 250 West
57th St., Suite 920,
New York, NY 10107
Email: heditor@hightimes.com

High Times November 2015

painkillers: There are addiction problems in my family, and I've taken them myself in the past following previous surgeries. I have no idea how people can put that poison into their body and still function. My wife doesn't smoke and never has, but she believes medical marijuana is a blessing.

My question for you: In your opinion, when is the appropriate time to tell your children that you smoke marijuana? Should I wait until they're of an age that they can fully understand what it is and what it's being used for?

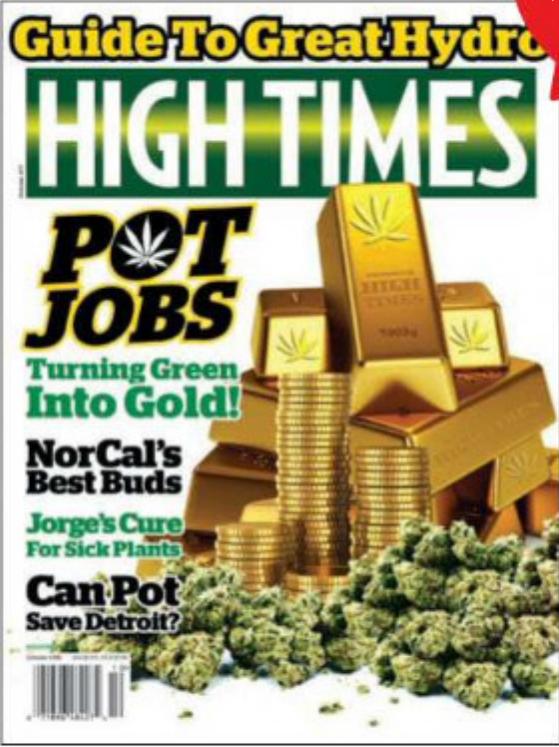
Mean Green Parent

Dr. Mitch Earleywine, author of *Parents' Guide to Marijuana*, responds: Every child is different, but you can start laying the groundwork at any age. As you come across relevant media coverage, or in other discussions that you have with them, point out how important it is to help the sick. Emphasize that some medicines are better than others. Stay candid about addiction in the family and Mom's decision not to use. And when the time comes, stress that marijuana use early in life—especially just to relieve boredom—frequently leads to problems, but that adult use in safe settings is no reason to penalize anyone. I bet you're doing this sort of thing now, so keep up the good work.

Dercum's Disease & Medical Pot

I'm a 36-year-old female. I've recently been diagnosed with Dercum's disease. Most people—even doctors—have never heard of it. In fact, there is currently only one doctor in the US who specializes in it. It's one of the top 10 rarest diseases and also one of the top 10 most painful. I live in Louisiana, which just passed a medical marijuana law, but the medicine probably won't be accessible for another few years, and the law allows only three types of patients to use it. I'm the mother of two girls—a 5-year-old and a 15-month-old—and I want to be part of my daughters' lives. I want to do activities with them and live as happily and as pain-free as possible—not be confined to my bed or sofa, in so much pain that I can't even hold my beautiful girls. Please Google "Dercum's disease" and you'll see that our small network of people could really use some big-time support. Thank you for your time.

*Melody
Louisiana*



In your opinion, when is the appropriate time to tell your children that you smoke marijuana? Should I wait until they're of an age that they can fully understand what it is?

literally commit suicide because of the pain, and it's something that doesn't go away. I was told to take hydromorphone (Dilaudid), which is a highly addictive and very strong opioid that makes me hyper. (I am allergic to other pain meds.) It didn't work: I waited two hours, with no relief. At that point, I ate a marijuana brownie—against my doctor's advice—and within a short time, the pain was gone and I was able to sleep.

If the neuralgia comes back, I'll be eating many more pot brownies. (I have chronic asthma, so smoking is out of the question.) I am totally convinced that marijuana is what caused the pain to go away.

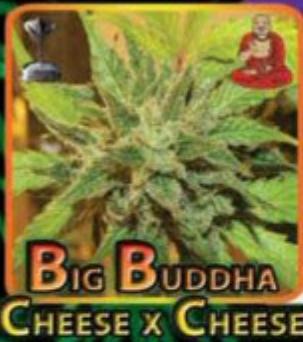
Peggy Bragg
Washington

Pot & Parenting

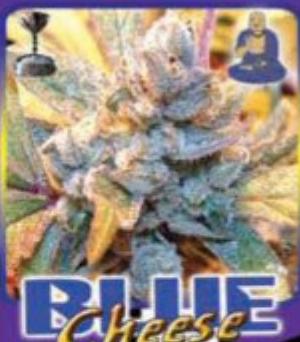
I have a tough question for you. I'm married and the father of a 2-year-old boy. My wife will soon give birth to a beautiful baby girl. I smoke medical marijuana to ease the pain caused by injuries from an accident. I've had a massive lower-lumbar fusion, complete with rods and screws. I'm practically robotic-moving, but I will never touch pharmaceutical



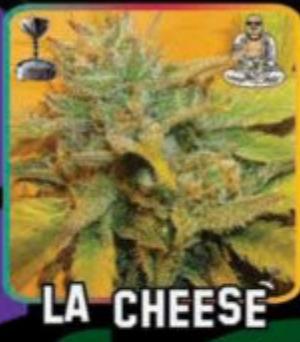
FEMINISED SEEDS



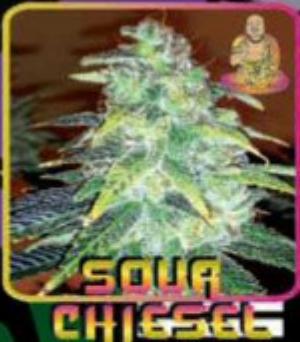
Big Buddha
Cheese x Cheese



BLUE
Cheese



LA CHEESE



SOUR
CHEESE



GREEDY
GIRL



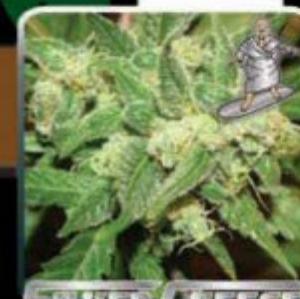
Buddha Tahoe



CHEESE
Dawg



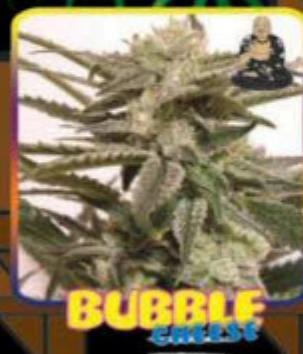
Buddha
Kush OG



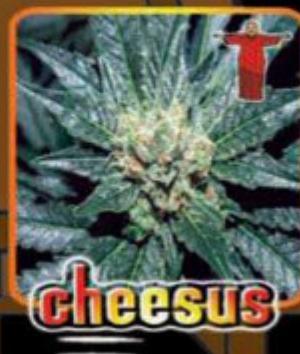
SILVER
CHEESE



CHEESEZEL



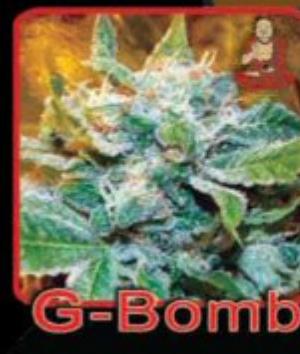
BUBBLE
CHEESE



cheesus



FREEZE
CHEESE 89



G-Bomb



Buddha Fly

AUTOFLOWERING SEEDS



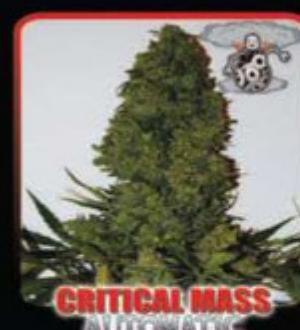
Big Buddha
CHEESE
AUTOMATIC



BLUE
Cheese
AUTOMATIC



SUPER
AUTOMATIC
SATIVA



Critical Mass
AUTOMATIC



CHEESE
AUTOMATIC



DAB REPORT Double, double, toil and trouble—butane drip and oil bubble! Here's an up-close view of some freshly extracted Mob Boss Lemon G live resin in the collection basin as it begins the first stage of its purge. For the full scoop on these delicious dabs, check out our feature *It's Alive: The Origins of Live Resin* on page 47. Photo by Ry Prichard

Contact High



IT'S ALL ABOUT ATMOSPHERE A lot more than meets the eye goes into growing a successful crop of top-notch ganja. Atmospheric and environmental conditions play an integral part in any growroom, no matter the size of the garden. For more on atmospheric control and the latest in remote control and Wi-Fi technologies check out "It's All About Atmosphere" on page 67. *Photo by Nico Escondido*

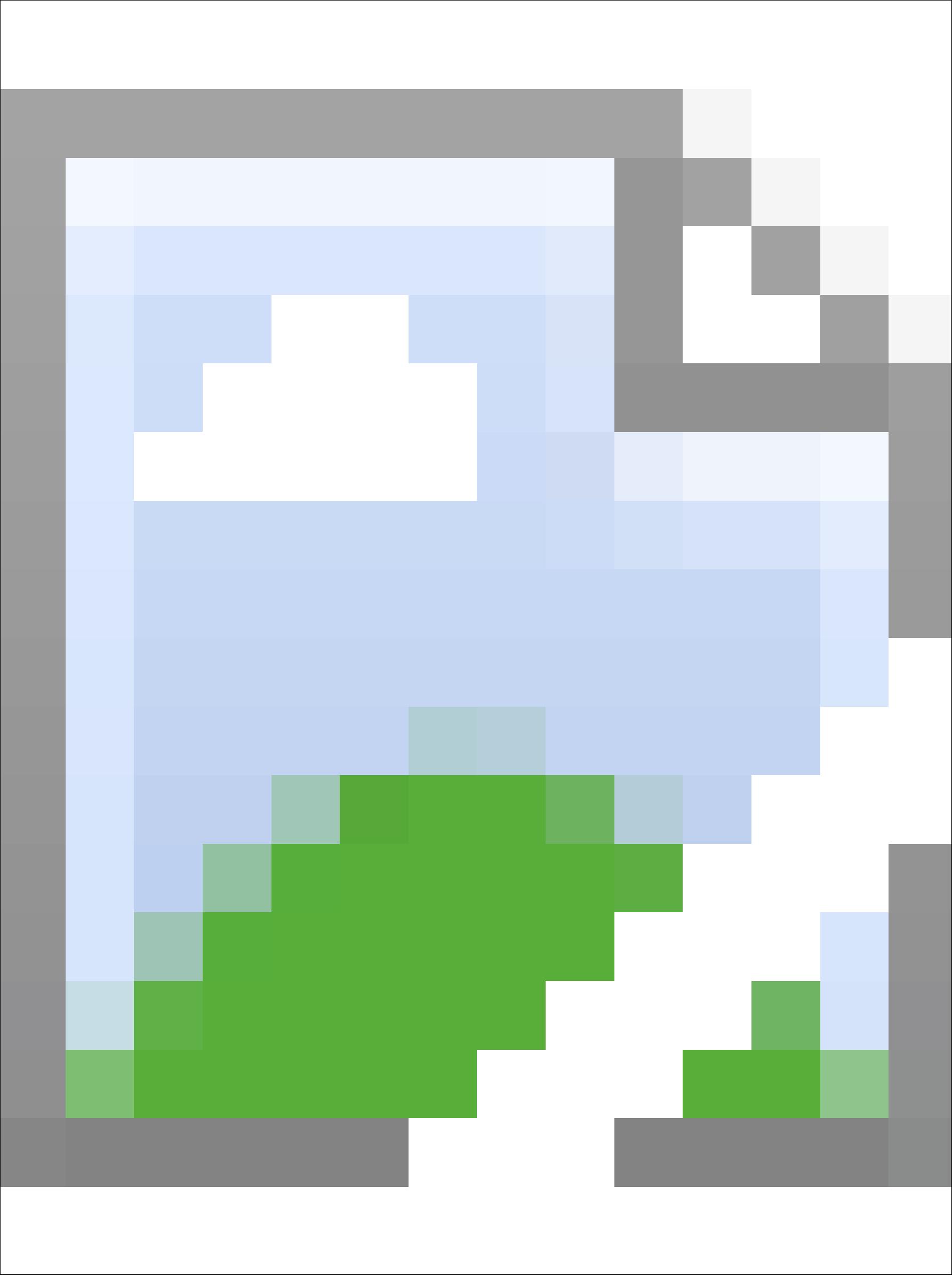
**Contact
High**

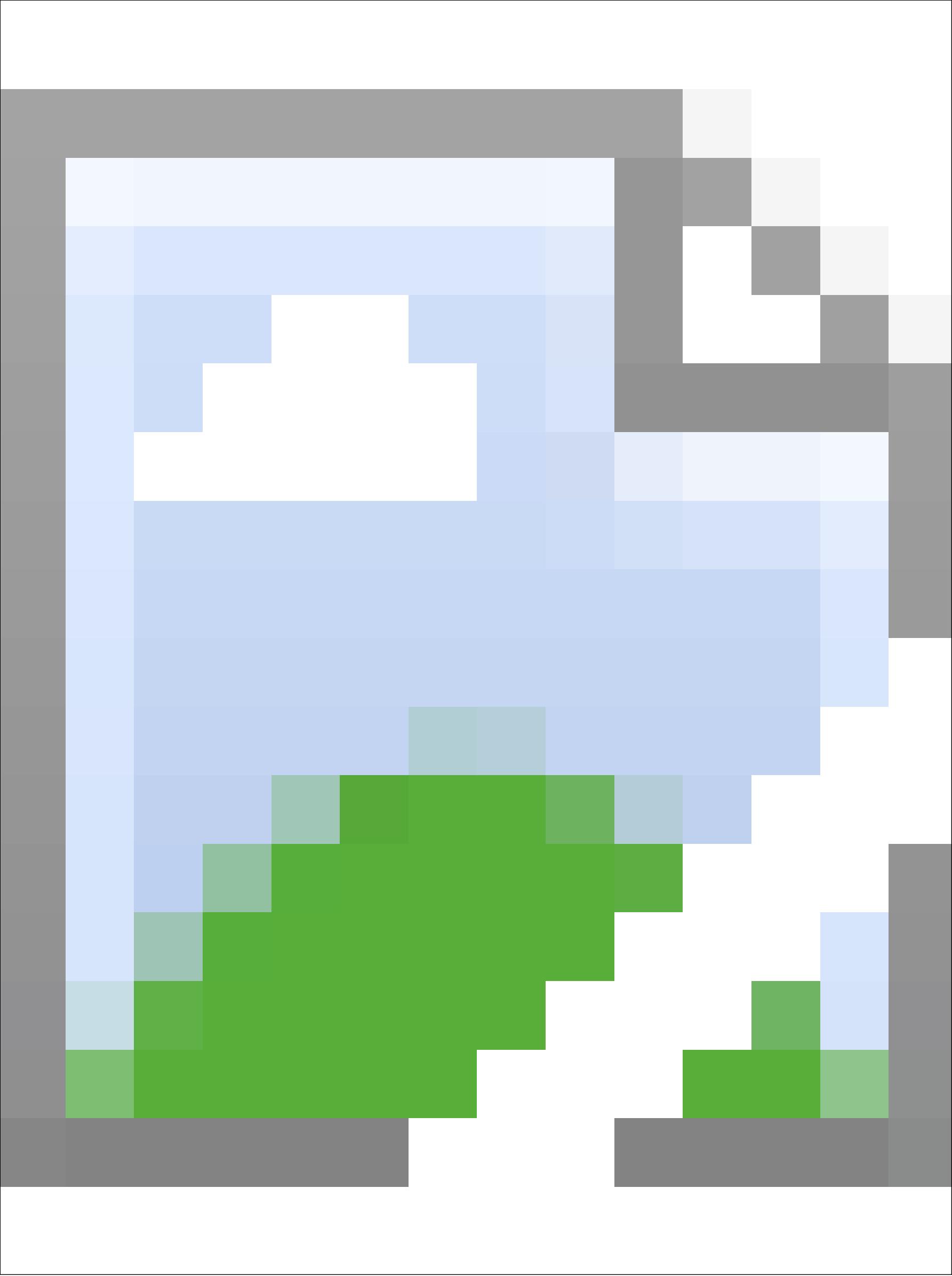




RAISING ARIZONA Renowned marijuana cultivation book author Mel Frank toured a massive legal marijuana growing facility in Phoenix. Starting on page 99, he illuminates what it takes to manage a pot production center that perpetually grows strains like the Ghost OG tops featured here. *Photo by Mel Frank*









BIGMIKES GROWERS UNDERGROUND

**No-Holds Barred
Advice and
Unconventional
Wisdom
on Growing
and Living One
Hell of an
Awesome Life**



Join The Revolution:
GrowersUnderground.com



Highwitness News

Amanda Backs Pot!



Entertainment

Triumphant Torres

Mackenzie Scott delivers with *Sprinter*. p.34



Food

Outrageous Oatmeal

Start your day with a bowl of ganja goodness. p.40



Trying Patients' Patience

More states are passing legislation acknowledging the healing properties of CBD. But while these measures raise medical marijuana's profile in the public eye, they do little to provide people with legal access or relief. *By Paul Armentano*

Scientists identified cannabidiol in 1940, some two and a half decades before the discovery of pot's most popular cannabinoid, THC. But until recently, fairly little attention has been paid to CBD.

Unlike THC, cannabidiol does not induce euphoria in those who consume it—rather, the compound tempers THC's psychoactivity. Like THC, CBD possesses a variety of therapeutic properties, including anti-psychotic, anti-tremor, anti-inflammatory, anti-oxidative and anti-diabetic activity. A limited number of human trials report that the compound is safe and well tolerated.

In recent years, the majority of attention paid to CBD has revolved around its potential to mitigate symptoms in children with rare forms of intractable seizure disorders, such as Dravet syndrome. One recent study, published in May in the journal *Epilepsy & Behavior*, reported that 85 percent of epileptic children administered CBD-enriched products showed a reduction in seizure frequency.

Like other cannabinoids found in the marijuana plant, CBD is classified as a Schedule I controlled substance under federal law. (The Food and Drug Administration reaffirmed CBD's prohibited status as recently as 2013.) Currently, five separate bills are pending in Congress to deschedule CBD and allow its medical use; to date, however, none have been slated for legislative debate. In February, the FDA sent warning letters to a number of firms marketing CBD products in the United States. More recently, the agency affirmed that marketing CBD products as dietary supplements is a violation of federal law.



Congress is allowing medical use of CBD to languish.

In 2014, lawmakers in 11 states—Alabama, Florida, Iowa, Kentucky, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Wisconsin and Utah—enacted measures concerning the medicinal use of CBD, primarily by adolescents. Most of these laws permit its use only as part of an FDA-approved

clinical trial (since trials involving Schedule I substances must be conducted in partnership with the federal government). Some states, like Florida and Missouri, are seeking to establish regulations overseeing the statewide production and distribution of CBD-enriched cannabis for qualified patients. To date, however,

None of these in-state programs are operational, and it remains uncertain when—or if—they ever will be.

Nevertheless, several additional states followed suit this year with the passage of their own CBD-specific laws. Like the first wave of CBD measures, these laws are largely unworkable. For example, Georgia's highly publicized law allows patients to legally possess CBD only if they acquire it from a legal-marijuana jurisdiction like Colorado. Virginia's new law similarly demands that patients obtain CBD from unspecified out-of-state sources, and allows an affirmative defense from criminal prosecution only for those who do. Oklahoma's law seeks to allow the possession of liquid preparations containing CBD, but only in instances where the compound is explicitly derived from hemp seeds or stalks—a demand that is impractical at best and impossible at worst. (According to a 2014 report published by Project CBD, "Cannabidiol can only be extracted from the flowers, leaves, and, to a very minor extent, the stalk of the hemp plant.")

In Texas, CBD oils are available only with a doctor's valid "prescription"—but as long as CBD remains federally illegal, technically no doctor can issue such a prescription.

Is sacrificing the whole plant in order to legalize the use of a single cannabinoid—even one as promising as CBD—an ideal alternative for patients?

While cannabidiol's therapeutic properties are not in dispute, the larger question remains: Is sacrificing the whole plant in order to legalize the use of a single cannabinoid—even one as promising as CBD—an ideal alternative for patients? Not by a long shot.

Medical marijuana patients have long insisted, based on personal experience, that whole-plant cannabis is greatly preferable to its isolated components. Scientific evidence confirms this assertion, finding that various naturally occurring cannabinoids and terpenoids work synergistically with one another to achieve maximum health benefits. Writing in the journal *Pharmacology & Pharmacy* in April, Israeli researchers reported: "Our findings [show] that CBD in the presence of other plant constituents improve the dose-response. [This] higher efficiency ... might be explained by additive or synergistic interactions between CBD and minor phytocannabinoids or non-cannabinoids present in the extracts." CNN's chief medical correspondent, among others, has recognized this phenomenon as

the "entourage effect."

Ironically, were it not for the advent of legal whole-plant marijuana, most of today's crop of CBD-only lawmakers wouldn't be aware of cannabidiol, much less advocating for it. The reality is that patients in medical states—and those who provide for them—are the ones doing the most to promote cannabidiol as a therapeutic agent. And it remains these patients and their caregivers—not politicians—who are making CBD legally accessible to others in need.

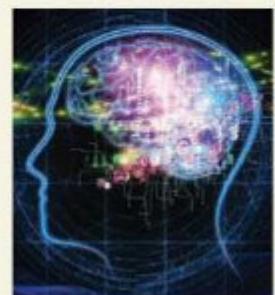
Do CBD extracts provide relief? Absolutely, they do. But, ultimately, the law shouldn't force patients to settle for using an isolated compound of the cannabis plant rather than the whole plant—including all of its cannabinoids and terpenoids and their synergistic effects. People should have safe, legal access to both options, and politicians—even well-intentioned ones—shouldn't restrict the right of patients to choose the most suitable one. *

Paul Armentano is the deputy director

HIGH FIVE

Maddening Myths

For the Feds, telling lies about pot is a full-time job.



Not Enough Studies

Myth: Feds claim there's insufficient research to allow rescheduling of pot under the Controlled Substances Act.

Reality: Marijuana is among the most analyzed plant substances in human history, with over 20,000 scientific studies and reviews worldwide published to date concerning the chemistry and pharmacology of cannabis compounds and the endocannabinoid system.

Gateway Drug

Myth: Cannabis use is a conduit to abusing hard drugs like heroin and coke.

Reality: This theory has been roundly debunked. Researchers since the 1980s have identified alcohol as the main "gateway drug." Furthermore, an extensive study by University of Florida researchers in 2012 found that high-school seniors who drink are 16 times more likely to use illegal drugs.

Causes Cancer

Myth: Smoking pot is as dangerous as smoking tobacco.

Reality: Several studies indicate that pot poses no significant risk of cancer, while other evidence points to weed as a potential cure for the Big C, with THC shrinking tumors in lab rats. Famed med-pot patient Angel Raich's oncologist attributed her brain cancer's suppression to cannabis use.

Causes Crime

Myth: Medical marijuana dispensaries boost neighborhood crime.

Reality: Medical pot shops actually deter neighborhood crime. This was substantiated in a 2011 study by the RAND Corporation, which found that crime increased (up to 114 percent) in LA neighborhoods once the dispensaries closed. City Attorney Carmen Trutanich pressured RAND to retract the report just one month later.

Damages IQ and Brain Function

Myth: Pot causes cognitive impairment.

Reality: Even heavy pot use has no detrimental effect on cognition, according to a 2001 Harvard study. A 2009 University of Saskatchewan report found that synthetic THC increased brain-cell formation by 40 percent. A 2013 research from the University of Bonn indicates that cannabis strengthens cellular subunits of the brain.



DON'T UNDERESTIMATE THE LITTLE GUY

chews wisely®



E-Sports League Begins Drug Testing

Gamers have been put on notice to clean up their acts as the world's largest competitive gaming organization, the Electronic Sports League, has initiated a drug-testing program. The ESL began testing for performance enhancing drugs at its ESL One tournament in Germany and is working closely with the German and World Anti-Doping agencies to decide the scope of its banned substances and the penalties to be doled out to violators.

PED use in gaming became an issue for the ESL when a player claimed he and his team used Adderall during a tournament in Poland while playing for \$250,000. The amphetamine is banned in most professional sports.

Gamers could also be tested for beta-blockers, which are popular in e-sports. No word yet on pot's status in the ESL, however, it is among the substances banned by WADA.

Chris Christie Wants to Take Away Your Legal Pot

New Jersey Governor and noted glutton Chris Christie is attempting to earn some socially conservative street cred for his long-shot White House bid by taking on marijuana legalization. While legal pot in Colorado and Washington State has proven both popular and profitable, Christie nonetheless threatened that, should he be elected president, the party would soon be over.

"I'm anti-marijuana. I believe it should still be illegal," Christie warned while campaigning in New Hampshire. "If you're getting high in Colorado today, enjoy it until January 2017, because I will enforce the federal laws against marijuana as president."

While Christie has supported state's rights when politically convenient, he dropped that act when discussing states that have legalized recreational marijuana. "We have a federal law on the books that says marijuana is illegal in this country. Illegal. No ifs, ands, or buts about it."

FLYING HIGH IN OREGON



Next time you're flying from Portland to Eugene, you can keep that stash of legal chronic in your carry-on, since passengers on all in-state flights in Oregon will be permitted to board with up to 1 ounce of cannabis—the state's legal limit—in their possession.

Portland International Airport changed its policy on July 1, the same day that recreational cannabis became legal in Oregon. Passengers with pot don't have to take any special measures, though if TSA agents discover the weed, they'll notify airport police, who will then verify that the amount doesn't exceed an ounce and that the passenger is booked on an in-state flight.

Unfortunately, although neighboring Washington also has legalized weed, carrying it across state lines falls under the jurisdiction of the federal government and its blanket pot prohibition. However, Washington's Sea-Tac airport also allows in-state passengers to fly with weed.



Amanda pulls tubes in *Ted 2*.

Seyfried Says: Free the Weed!

Amanda Seyfried thinks marijuana should be legal, even though she doesn't partake of pot herself.

"I think it's a wonderful thing, and lots of people use it responsibly, and it should be legal," the 29-year-old actress told the London *Sunday Times*.

Unfortunately, Seyfried suffers from anxiety, a condition that pot can exacerbate, so she steers clear of it in real life. However, her *Ted 2* character, attorney Samantha L. Jackson, rips plenty of bong hits onscreen—and that's just fine with Seyfried: "They could have put a bong in every scene as far as I'm concerned."

The *Mean Girls* star is also frustrated by the blatant hypocrisy of pot prohibition: "I don't understand how people can die all the time from alcohol poisoning, yet pot is so stigmatized."

Seyfried is making plenty of sense. Here's hoping she finds the right strain to treat her panic attacks.

Senators: Study the Medical Benefits



Warren wants weed research.

Senator Elizabeth Warren (D-MA) has once again placed herself at the forefront of progressive politics in America, issuing a letter calling on the heads of various federal agencies—including the DEA, the Office of National Drug Control Policy and the Department of Health and Human Services—to answer a series of detailed questions regarding the federal government's role in medical marijuana research.

The letter, which was signed by seven other senators (all Democrats), insists that the federal government has a responsibility to investigate the efficacy and benefits of medical cannabis. (It has long been standard operating procedure for the Feds to fund only those studies that seek to find harmful effects in marijuana use.) The senators proposed that the Feds should be collecting data and performing clinical trials in the 23 states (plus the District of Columbia) that have already legalized medical cannabis.

Additionally, the group urged the federal government to work with "independent scientists" and to remove all unnecessary barriers to medical marijuana research. The senators also asked the DEA for a "timeline" for the Food and Drug Administration recommendation for rescheduling cannabis under the Controlled Substances Act.

G8 LED



GROW GREEN with G8LED™ Technology

Full Spectrum Grow Lights
for Healthy Growth & Maximum Yield



G8-450 Veg / Flower

Coverage 12+ Sq. Feet
110 / 240V - 2.2/1.0Amp

\$599



G8-900 Veg / Flower

Coverage 24+ Sq. Feet
110 / 240V - 4.4/2.0Amp

\$1099



G8-240 Veg / Flower

Coverage 6+ Sq. Feet
110 / 240V - 1.2/0.7Amp

\$309



G8-600 Veg / Flower

Coverage 18+ Sq. Feet
110 / 240V - 3.3/1.6Amp

\$899

G8-90RR Red

Flower Booster

\$159



Optimal 8-Band™ with UV & IR

call for catalog

888-771-GROW

www.DormGrow.com

"HIGH TIMES" "CANNABIS CUP" "MEDICAL CANNABIS CUP" AND THE CANNABIS CUP TROPHY ITSELF ARE REGISTERED TRADEMARKS USED UNDER LICENSE FROM TRANS-HIGH CORPORATION."



CA Okays Organ Transplants for Pot Patients

Starting on January 1, 2016, California medical marijuana patients will finally be eligible for organ transplants. Governor Jerry Brown signed Assembly Bill 258, which modifies the state Health and Safety Code to prohibit hospitals, physicians and procurement organizations from denying organs to potential recipients based solely on their pot use.

While better late than never, this law is long overdue: Medical marijuana has been legal in California since 1996, and many med-pot users have died after being unfairly rejected for organs that might have saved their lives.

Passage of the Medical Cannabis Organ Transplant Act was critical because so many people with diseases that require transplants—such as hepatitis C—use marijuana to treat their symptoms. This bill should finally put an end to the illogical and appalling denial of life-saving organ transplants to people simply because they use pot.

Paralyzed for Selling Pot

Details continue to emerge in a tragic case that left an African-American man paralyzed, amid continuing questions about a police raid.

Julian Betton, 30, was shot at least nine times by local drug-enforcement officers in Myrtle Beach, South Carolina, during an April raid, leaving him paralyzed from the waist down and in a coma for six weeks.

Police obtained a warrant after an undercover informant bought weed from Betton twice—once for seven grams, the second time for eight grams. The cops allege that Betton, who was armed at the time of the raid, fired first as they burst through the door of his apartment—a claim that Betton denies. He was eventually charged with three counts of pot possession with intent to sell, but an independent prosecutor reviewing the case found no evidence that he ever fired a gun. Betton has yet to be charged with any firearms violations.

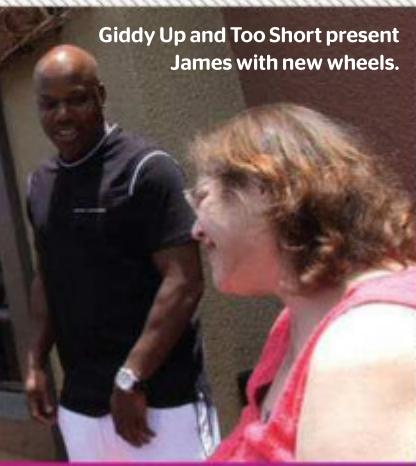
TRIP LIGHTLY



Have you tried “microdosing” yet? It’s the new international phenomenon of consuming modest quantities of hallucinogens like acid and ‘shrooms. According to proponents, the primary advantage of microdosing is achieving some of the psychological benefits of tripping without the overwhelming mind-melt. Some microtrippers have reported improvements in their perception, mood and focus.

A typical micro-dose is 10 micrograms of LSD; standard doses run anywhere from 50 to 150 micrograms. One method of ingestion is to soak a blotter hit in water and then drink a portion of the “acid aqua.”

Although microdosing is becoming a 21st-century trend, some believe that the practice actually predates the dawn of humankind. According to the late Terence McKenna’s “Stoned Ape” hypothesis, microdosing by primates assisted their cognitive evolution and helped us become the rational humans we are today.



Giddy Up and Too Short present James with new wheels.

Too Short Stands Tall

Rapper Too Short and Colorado ganjapreneur Giddy Up (owner of EmoTek Labs) got together to help out a medical marijuana patient who was shamefully treated by police during their raid on a California dispensary.

Last month, we reported that officers from the Santa Ana PD were caught behaving badly on security cameras during a raid of Sky High Holistic. A lawsuit filed on behalf of the dispensary alleges that the police used excessive force and caused \$100,000 in damages. However, the most disgusting part of the raid happened when two cops mocked wheelchair-bound amputee Marla James, 54, who works at Sky High. In the video, a male officer asks, “Did you punch that one-legged old [woman]?” To which a female cop replies, “I was about to kick her in her fucking nub.”

Giddy Up and Too Short saw the video and wanted to reach out to James. After finding out that her wheelchair was 10 years old, the pair decided to gift her with a brand-new power chair, the spiffy Jazzy 600 ES.



Greenhouses line the Pit River tribe's XL Ranch.

Reservation Raids

Several federal agencies, including the DEA and the Bureau of Indian Affairs, raided two California tribes raising extensive pot gardens. The raids came despite the recent Justice Department policy change that permits marijuana cultivation on sovereign tribal land.

The Feds were aided by state and local law enforcement in raiding the Alturas Indian Rancheria, home to the Achomawi tribe, and the XL Ranch, home to the Pit River tribe, which consists of Achomawi and Atsugewi Native Americans. Both reservations are located in Modoc County, tucked away in California’s far northeast corner.

The Feds seized at least 12,000 plants and more than 100 pounds of dried cannabis flowers between the two sites. Prosecutors allege that the tribes were conspiring with Canadian cigarette producer Jerry Montour to illegally distribute the cannabis internationally.

THE TRIMPRO FAMILY OF PLANT TRIMMERS CHOOSING YOUR TRIMPRO

FOR VERTICAL OR HANG DRYING

Choose from two MANUAL CONTROL units the model best suited to your capacity and working environment needs.

FOR HORIZONTAL OR RACK DRYING

Select from these exceptional models, ranging from our small, power-free ROBOTIC TOUCH unit, to our medium and high production MANUAL CONTROL and AIRFLOW units.

MANUAL CONTROL UNITS

TRIMPRO TRIMBOX

MANUAL CONTROL UNITS

TRIMPRO ORIGINAL WORKSTATION

FOR HORIZONTAL OR RACK DRYING

ROBOTIC TOUCH UNITS

TRIMPRO UNPLUGGED

AIRFLOW UNITS

TRIMPRO AUTOMATIK

TRIMPRO AUTOMATIK XL

TOLL FREE 1-844-TRIMPRO



TRIMPRO[®]

INFO@TRIMPRO.COM

TEL.: +1 450 349-0811 1-844-874-6776

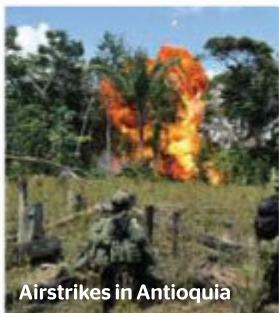
PATENTS: CANADA: 2,470,370 USA: 7,168,643 EUROPE: 1,662,858 B1 AUSTRALIA: 2004269786 CSA AND CE STANDARD

UNRIVALLED INNOVATION

TRIMPRO.COM

HIGHWIRE

Dispatches from the international drug war. *By Bill Weinberg*



Airstrikes in Antioquia



Busted on the high seas



Stashed hash seized

Colombia: Peace Talks Resume as War Escalates

Colombia's FARC guerillas called off their six-month-long unilateral ceasefire after a military airstrike in the country's Cauca region on May 22 left 26 of its fighters dead. When a new phase of peace talks opened in Havana, Cuba, three days later, FARC leaders appealed to the Colombian government to instate a bilateral ceasefire. Instead, the very next day, Colombian forces carried out a mixed land-and-air assault on a camp of the FARC's 18th Front in the Pacific coastal region of Chocó, killing 41 guerrillas, followed a day later by new airstrikes targeting the FARC's Fourth Front in Antioquia, killing 10 more fighters. Among those killed in the Cauca strike, according to FARC, was a guerrilla leader taking part in the Havana peace talks.

Shedding light on the roots of the continuing conflict, the *New York Times* on June 2 followed up on the Colombian government's encouraging decision to halt the US-led program of spraying glyphosate to wipe out coca crops. The report found that even in the area known as "La Macarena" (in the eastern Andean foothills of the

Italy: Hashish Cargo Ship Seized in Mediterranean

Italian police, in a joint operation with Turkish, French, Egyptian, Spanish, Moroccan and Europol forces on June 5, intercepted a Turkish cargo ship in the Mediterranean carrying some 12 tons of hashish valued at 40 million euros. The ship's 10 Turkish crewmembers were also detained.

The Italian Coast Guard received a tip from Turkish authorities that there were drugs aboard the vessel, which was sailing from a Moroccan port. Troops intercepted and boarded the ship in the Strait of Sicily, which separates Italy from Tunisia.

Meta region), the program has fallen short of expectations. The Colombian government had hoped to make the region a showcase of alternative methods to combat coca cultivation, including providing aid to encourage "substitution crops" like cacao, corn and plantains. But eight years after the Macarena program began, the promised roads and electrification have still not been delivered, leaving the region in isolation and squalor—exactly the conditions that led the local *campesinos* to start growing coca and supporting the FARC in the first place.

Mexico: New Massacre in Michoacán

On May 22, according to Mexican authorities, at least 43 people were killed in a shoot-out between federal police and a gang



The conflict continues.

allegedly linked to the New Generation cartel at a ranch called El Sol in Michoacán state. But this official version is increasingly being questioned: Survivors gathered at a local morgue to collect the bodies of their loved ones told reporters it wasn't a shoot-out but a "massacre," in which unarmed villagers were summarily killed by police. By the federal authorities' own admission, despite 43 people being killed (including a single police officer), only 36 firearms were recovered at the scene—suggesting that at least

some of the "gunmen" were unarmed. Mexico's National Human Rights Commission has since opened an investigation.

The claims of a massacre at El Sol echo similar charges in an incident that left a disputed number dead in a supposed confrontation between federal police and a narco-gang at the Michoacán town of Apatzingán in January. But the massacre at El Sol may have been revenge on New Generation followers (real or perceived) after an incident earlier in May, when cartel gunmen fired on a police helicopter, forcing it to make an emergency landing.

Pakistan: Another Record-Breaking Hash Haul

Pakistan's Coast Guard on May 5 announced the seizure of more than three

tons of hashish in a raid on an oil tanker bound for the Middle East. The tanker was intercepted after it set sail from the port of Karachi. Acting on a tip, the guardsmen used power tools to pry open a secret chamber where the stash was hidden. Major Zafar Ahmed said the haul was the Coast Guard's biggest ever, with an estimated value of \$50 million in the Middle Eastern countries where it was bound.

Hashish interceptions on the Arabian Sea route between Pakistan and the Arab states have soared over the past year, but this marks the first time the stuff was hauled in an oil tanker rather than a small merchant craft. Stepped-up policing has been snaring boats once thought small enough to slip through the net, with traffickers now apparently using ships they hope will be too big to come under suspicion—pointing to the co-option of the legal shipping and oil industries. Pakistan is a transfer point for hashish originating in landlocked Afghanistan, the region's major producer, where opium is also booming. *

For updates on these and other stories, see Bill Weinberg's websites, GlobalGanjaReport.com and WorldWar4Report.com.



The next Generation of winners



WWW.DNAGENETICS.COM

SHOP ONLINE OR CALL US AT +31 207787220

ACQUISITION OF CANNABIS SEEDS IS ILLEGAL IN MOST STATES OF AMERICA | DNA GENETICS DOES NOT SHIP SEEDS TO THE U.S.A.



DNAGENETICS

THE ALS

THE WHIZZINATOR

Touch!

The **FIRST** touch-and-go synthetic urine system by ALS.

MEDICAL GRADE SYNTHETIC URINE

LOOKS SO REAL
WE CAN'T SHOW
YOU THE REST!!!

SUPER
LIFE-LIKE
PROSTHETIC

GET OVERNIGHT SHIPPING!

THEWHIZZINATOR.com
(888) 895-7016



This product is not intended for any illegal purpose. Nor is it to be used to defeat lawfully administered drug tests.





SPOTLIGHT

Undercover Solutions' PortaPocket

This versatile little carrying case comes with interchangeable bands for use on your ankle, wrist, calf or arm. The lightweight, discreet, Velcro-mounted pocket lets you stash your hash and your cash comfortably. Wear it over your clothing to show off the embroidered pot-leaf design, or under your outfit to sneak weed past the inquisitive eyes of the po-po. The sweat- and water-resistant PortaPocket Essentials Kit contains a credit-card-size pocket and a larger belt-loop one that easily fits a couple of doob tubes and a lighter. As the company puts it: "Lose the worry... not your stuff." \$18-\$35, portapocket.com

Ganja Meets Gore

Horror master Eli Roth's ghoulish flick gives new meaning to the word "edibles."



Powerful Peruvian weed plays a central role in *The Green Inferno*, a horror film set deep in the Amazon rainforest. Director Eli Roth, creator of the cult classic *Cabin Fever* and the gory *Hostel* film series, confesses to *High Times*: "I love stoner movies—I grew up on Cheech & Chong, *Fast Times at Ridgemont High*... This is the first movie I wrote with weed as an important plot point."

The film was shot mostly on location in Peru, with the cast and crew traveling back and forth to a set on the Amazon



This looks like a very bad trip.

River every day. As actor Daryl Sabara (who, fittingly, plays a stoner in the movie) recalls: "The current on the Amazon was strong, so we would smoke pot so as not to get sick.

After a day of shooting, we would be covered with mud and blood—we'd go in the river and wash off, then smoke some bowls and take the two-hour ride back up the river. It was an amazing ride. The sky would open up, and it was beautiful."

Despite its beauty, the rainforest serves as a backdrop of pure terror in *The Green Inferno*. A group of well-meaning college students takes their humanitarian protest from New York City to the Amazon jungle, only to become the prisoners of the indigenous tribe they came to save. "The original creative

impetus for the movie was: What would happen if you got a bunch of cannibals stoned, and they got the munchies?" Roth divulges.

And what about that important plot point involving weed? "I wanted there to be a mythical strain of supersonic weed, as if it had ayahuasca in it," Roth says. "*The Green Inferno* has an epic weed scene that I've never seen in a movie before."

Locals provided all of the pot used during filming, both onscreen and off. *HT* hears the set was smoked out every day! "I wanted to make a movie that's entertaining every time you watch it," Roth asserts, "and this is a great one to smoke and watch. See this one with a bud, for sure."

The Green Inferno opens September 25.

Pro-Pot Puppets



Bud Greenfield and Nugget are the stars of *The Green Report*, a YouTube news show about cannabis. The show, like the puppets, is the brainchild of puppeteer Chris Chappell, a marijuana-legalization activist who delivers *The Green Report* from his home studio in

North Carolina. Chappell operates Bud and Nugget simultaneously—one on his left hand, the other on his right—in front of a green screen, adding the weed-leaf background in post-production, as well as a cloud of smoke whenever Nugget does a bong rip. The stoner puppets deliver the latest from the CAN newsroom (get it?) with a laid-back, lighthearted tone, but their message is a serious one: It's high time to end the War on Drugs and legalize marijuana.

Check out the *Green Report* at youtube.com/cannnewsroom.



Scent-semilla

Inspired by cannabis legalization in Colorado, this fragrance collection from Dawn Spencer Hurwitz speaks to, and of, a cannabis culture that has been thriving since the Jazz Age and is now moving into a monumental new era. Four fragrances are available: The Green House is redolent of a growroom; Love You Mary Jane reflects the aroma of sticky nugs; Agrestic conjures the scent of an outdoor grow; and Rocky Mountain High is a smoky, woody scent. A little dab (of fragrance) will do you! dshperfumes.com



Mackenzie Scott achieves a fine balance.

Torrential

A sublime sophomore album heralds the arrival of a new indie heavyweight. *By Mary Jane Gibson*

Sprinter, the second LP from 23-year-old Mackenzie Scott, who records and performs under the name Torres, is a complex, gritty, glorious album. The rawness of her singing and songwriting is heartrending, her ferocity bleeding through the sorrow, her sound both stark and rich. Scott investigates the darkness of grief and mental illness with smart, penetrating, often mournful lyrics, as on “Ferris Wheel”: “There’s nothing in this world I wouldn’t do / To show you that I’ve got the sadness too.”

Scott also sings of marijuana: “Blew my per diem / On an eighth of Blue Dream,” she bemoans in “The Exchange.” Raised in Macon, GA, Scott didn’t encounter weed until she went to college in Nashville. The first

time she smoked, “I didn’t get high,” she says. “I tried a few times, with a friend. I was pretty sheltered growing up, so it was kind of a big deal for me. I waited until I was in what I felt like was a really safe space, and I tried several times, but it didn’t work.”

She persevered, though. “The first time I actually got stoned, I got a joint for my friend for her birthday. We passed it around on her front porch, and it just ... happened.” Scott had a major panic attack—“I thought I was dying,” she recalls—and didn’t smoke weed again for a while. But now she prefers it to drinking: “I’ve been pretty consistently perma-stoned,” she confides with a grin.

Her rueful songwriting notwithstanding, Scott has a healthy sense of humor. She

describes the English seaside town of Bridport, where she recorded *Sprinter* last year with veteran producer Rob Ellis (*PJ Harvey’s Dry*), as a “retirement town for hippies.” But she was shocked to discover that despite the old-hippie vibe, “There was no marijuana to be found in Dorset. Two and a half weeks of recording, and nothing. I asked a lot of people—I asked the label! They came back and were like, ‘Sorry, we couldn’t find any.’ So there was a lot of Scotch involved for a couple of weeks.”

As a frequent weed smoker

Scott feels that “it’s important to detach the stigma from marijuana,” adding: “It’s been very helpful to me.” She smokes when she’s writing and composing, but not when she performs. “I just find that it has a lot of the same effect that alcohol has on me, at a certain point. My fingers stop working. I forget lyrics. I try to be sober when I perform on all fronts. But when I write, I smoke.”

With her dark vitality, wry intellect and scorching talent, Mackenzie Scott—a.k.a. Torres—is poised to join the ranks of iconic rock powerhouses like PJ Harvey, Nick Cave and Kurt Cobain. Watch out for her—she’s going to blaze. 

Visit torrestorrestorres.com.



She Got the Funk

What does Scott listen to when she’s smoking and writing? “A lot of Funkadelic,” she says. “I’m a late bloomer—I didn’t discover Funkadelic until last year. I thought it was the coolest thing I’d ever heard when I discovered it.”



ELITE BOTANICALS

Simply the Finest and Most Potent Whole-Plant CBD Oil

PureAmericanHemp.com/CBD

To discover wholesale opportunities and to stay up-to-date on everything CBD, visit the website above and join our Elite Community today!

INFUSED INTO THESE FINE PRODUCTS:

MARY'S
NUTRITIONALS

MARY'S
MEDICINALS

incredibles
HIGH-QUALITY HANDCRAFTED INFUSED EDIBLES



ORGANIC:

Living soil organic cultivation methodologies. We feed the soil so the soil can feed the plants.

AMERICAN MADE:

All flowers are grown in the USA under hemp agricultural licensing.

POTENT:

Elite CBD is cultivated using some of the highest CBD cannabis cultivars currently known.



An apple toke a day ensures the band will play.

"It was written stoned and performed stoned—at least by me. And it would help if the listener is stoned."

"I smoke out of a lot of apples," Collins laughs. "We're definitely experts at this point."

And though he's been busted for possession in Europe, he's managed to avoid serious jail time. "They'll hold you at the police station for like 14 hours, and then they'll let you go," Collins explains. "You might miss a show, which is terrible, but they don't have the draconian drug laws we have. Hopefully, that'll change soon here."

Sadly, Collins's home state of North Carolina probably won't be legalizing it anytime soon: In March, a legislative committee shot down a proposed measure that would have allowed medical marijuana. "It's weird, because I consider us a pretty progressive state," Collins says. "And the state stands to make a lot of revenue from it, because we've got great shit coming out of the mountains here. So I don't know what the hell they're thinking."

Adding to their stoner cred, Weedeater recently collaborated with Outer Limits Hot Sauce, lending their name to the company's jalapeno-and-hemp-seed condiment. "Man, we sold about 250 bottles of it in 27 days on our last tour," Collins enthuses. "It's delicious stuff. The hemp seeds give it a kind of smoky flavor. Even if you don't like the band, I bet you'll like the sauce." *

Masters Of Weed Metal

North Carolina's Weedeater find themselves smoking out of apples a lot. *By J. Bennett*

Ask Weedeater vocalist/bassist "Dixie" Dave Collins about his band's latest album, *Goliathan*, and he'll tell you this: "It was written stoned and performed stoned—at least by me. And it would help if the listener is stoned."

Weedeater was formed in the late 1990s in Wilmington, NC, after Collins's old band, revered sludge lords Buzzov*en, went tits up. The new band's moniker developed as a bizarre double-entendre of sorts: "There was a situation where my dog ate all of my weed, so that's where the name comes from," Collins laughs. "At the same time, some of our early material didn't sound unlike an actual weed-eater."

Over the course of nearly two decades, Weedeater have unleashed such memorably

titled albums as ...*And Justice for Y'all* and *God Luck and Good Speed*. Though their music is routinely described as "stoner rock," they prefer the term "weed metal."

"It's a term that we coined, so we're the only weed-metal band on the planet," Collins explains. "But I don't mind what people call us, as long as they're interested enough to check it out."

As for his personal ingestion, Collins remembers his first experience fondly. At 14, he and a friend fashioned a makeshift pipe out of a toilet-paper roll and tin foil and proceeded to hotbox his mom's bathroom. "Then we ate everything in the house," he laughs. "And I fell in love with it. It would be my drug of choice, but I don't even consider it a drug."

These days, Collins is a daily toker who partakes via his vaporizer or the custom bubbler that he bought for his girlfriend. "Since we live together, it's one of those gifts that's also for myself," he concedes. "So I guess it's kind of a con."

Of course, crossing state lines and international borders precludes carrying glassware, so Collins and his bandmates—guitarist Dave "Shep" Shepherd and drummer Travis "T-Boogie" Owen—find that an apple a day keeps law enforcement away. "We



The Real Deal

Collins is so committed to the stoner lifestyle that he works at a headshop when he's not on the road. "I've worked there for 12 years," he says. "I haven't been there much lately because I've been so busy, but I'll be back, because I just love working there."



Grow Tube

COMPLETE SYSTEMS STARTING AT \$595



Available in LED
5W per diode, 300W adjustable LED
Bloom and Veg mode

NPK
INDUSTRIES

- 6 feet tall, 3 feet in diameter - Fits anywhere!
- Scientifically designed to max out light penetration and improve air flow for massive harvests.
- Hydro or Organic, HID or LED - Your choice!
- Fully Automated, dynamic timing, lifetime support, Nutrients, feeding and lighting schedules – The easiest system on the market today!
- Accessorize with CO₂, Raptor Odor Controller, and Dryer!
- Ask about our **Triple Threat** - Harvest every 5 weeks!
- CO₂ powered by **THE GREEN PAD CO₂ GENERATOR**



CALL YOUR HYDROPOONICS GROUP
REPRESENTATIVE AND GET STARTED TODAY!

www.HydroponicsGroup.com

800-850-6360

HYDROPOONICS GROUP IS
COMING UP FOR SALE!

SUPERCLOSET

2015 "BEST OVERALL SYSTEMS"

Adjustable Height Tent!

Gorilla Grow Tent is the first and only height adjustable tent! Adjust your height as your plants grow from 7ft, 8ft, 9ft, and beyond! The sky is the limit! Indoor Growing is limitless!

No Smell!

Premium Phresh Filter Carbon Activated Air Filters come standard in our SuperRooms, the Gorilla Grow Tent 1680D fabric, and the closed loop system maintains your internal environment and keeps smells from escaping!

Best Air Flow!

SuperRooms come standard with Internal Circulation Fans for the best air flow throughout your grow!

Best Grow System!

SUPERPOONICS
STASH AWARD WINNER!

Award Winning Super BubbleFlow Buckets grow your plants 2-5x faster and easier! Guaranteed!

Comes with **EVERYTHING** you need, including your Nutrients, DVD, Ph Kit, TDS Pen and More

COMES FREE WITH 9 EPISODE **SuperPro!** **TUTORIAL GROW SERIES!**
SUPERCLOSET.COM



**HIGH TIMES
STASH AWARD WINNER**

Best Grow Tent!

Gorilla
STASH AWARD WINNER!

The Award Winning Gorilla Grow Tent is the Tallest, Thickest, Strongest and Safest grow tent on the planet. GROW STRONG!

Best Grow Lights!

KIND LED
STASH AWARD WINNER!

Choose either high tech full spectrum "2014 & 2015 Best LED Grow Light" KIND LED or closed loop Lumatek powered HPS. Grow Bigger, Kinder, Guaranteed!

Safest Grow Room!

Gorilla Grow Tents come with an Industrial Strength Spill Tray and a IR Block roof keeping you safe on both ends! Grow with Confidence!

Fully Automated!

SuperRooms are Fully Automated and can be left for up to 7 days at a time. Grow Easy!



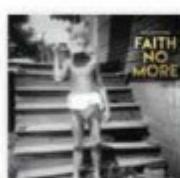
Faith Resurrected

A welcome return from the masters of the real thing.

Everybody's doing it: Bands that hit their apex—and went tits up—in the '90s have been returning in force. Soundgarden, Pixies, My Bloody Valentine—the list goes on (and on), and the results are wildly varied. Recapturing the energy and artistic spirit of one's youth isn't always easy when one hovers around 50. And yet Faith No More have done just that with *Sol Invictus*, their first album in nearly two decades. Not that anyone should be surprised: FNM were easily one of the most talented and unclassifiable bands of the 20th century, and their breakup seemed

more like an escape from the music industry's daily grind than any kind of creative capitulation—despite what misguided critics might say about their 1997 swansong, *Album of the Year*.

Faith No More's 2015 lineup is 1997 revisited: vocal contortionist Mike Patton, bassist/producer Billy Gould, guitarist Jon Hudson, drummer Mike Bordin and keyboardist Roddy Bottum. The latter's piano melodies take the lead on much of *Sol Invictus*, steering the mellow title track, playing romantic foil to Hudson's porno-funk guitar on "Sunny Side Up" and offsetting Patton's creepy falsetto on "Separation Anxiety." Then there's the metallic chug, cheerleader-style chants and anthemic chorus of "Superhero," a song that would have fit seamlessly on 1989's *The Real Thing* or 1992's *Angel Dust*, both widely regarded as FNM's finest hours. On "Cone of Shame" and "Rise and the Fall," Patton and Hudson vault into the spotlight with stellar performances, while Bottum lends a husky lead vocal to the comic kiss-off track "Motherfucker." All told, it's a one-of-a-kind return from an equally singular band. *J. Bennett*



Faith No More
Sol Invictus
(Reclamation/Ipecac)

MUSIC RECOMMENDATIONS



Major Lazer
Peace Is the Mission
(Mad Decent)



mewithoutYou
Pale Horses
(Run for Cover Records)



Sufjan Stevens
Carrie & Lowell
(Asthmatic Kitty)

► DJ/producer Diplo's third full-length as Major Lazer is a masterfully market-surveyed EDM missive that musters some wickedly varied new dance hybrids, though mega-hit "Lean On" plays it safe with a heavily auto-tuned vocal and a standard anthem-like chorus. High-steppin' bumpa-thump

► Philadelphia quintet mewithoutYou routinely challenges critique and category, as on their sixth LP. Raw neo-punk energy is wrapped in a cocoon of geek literacy, while rhythm and distortion get weathered by waves of pinched psych, as on "Watermelon Ascot" and "Mexican War Streets."

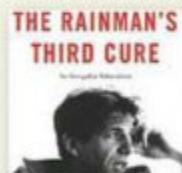
► Sufjan Stevens's seventh studio album is a folky meditation on loss and family inspired by the real-life death of his mother, Carrie; it is also one of the strongest albums of 2015. Stevens employs the lyrical specificity, thematic depth and ornate orchestrations that listeners love—but now,

"Too Original" interstitches foxtrot and ragga/ klezmer clash; when "Blaze Up the Fire" brings Chronixx toasting' stylee over a candy shop of hyper-distracted mixtape madness like mechanical flies nipping at your face, the sheer volume of ticklish aggro-beauty is deliciously overwhelming. *John Payne*

Aaron Weiss's speak/sing/scream vocalizing tempers his verbose lyricism (including the Old Testament references in "Red Cow"). Teleporting closer "Rainbow Signs" burns a slow fuse before the contrasting guitars explode into rage and eventually subside into fuzzy acceptance. *Mark Miller*

there's a sense of grounded maturity as he explores deeply personal existential questions. "What's the point of singing songs, if they'll never even hear you?" he asks on the bittersweet "Eugene." He lets the question hang as a challenge, and he expects you to consider an answer. *Ira Gamerman*

BOOK RECOMMENDATIONS

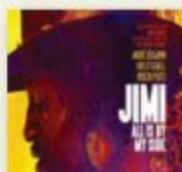


The Rainman's Third Cure
Peter Coyote
(Counterpoint)

► Best known as an actor, and as co-founder of the performance-art street commune the Diggers, Peter Coyote is the author of an earlier memoir (*Sleeping Where I Fall*), the best insider's account of 1960s freak theory in action. This worthy follow-up focuses on his lifelong spiritual influences,

a group that includes not just Zen Beat poet Gary Snyder but also a jazz bassist, a gay dancer from Martha Graham's troupe and a Mafia consigliere. The lesson is that with open eyes and heart—and sanctimony in abeyance—wisdom can be gleaned from unexpected sources. *Michael Simmons*

DVD RECOMMENDATIONS

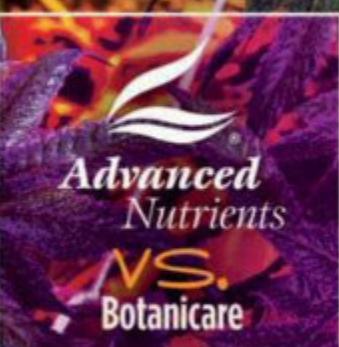
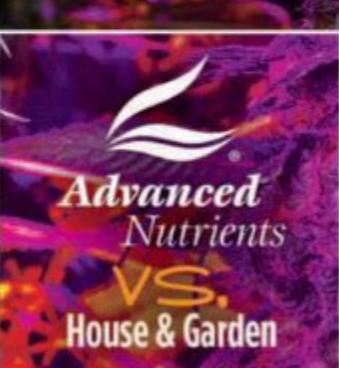
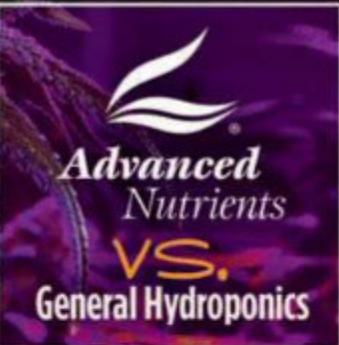


Jim: All Is by My Side
Directed by John Ridley
(Open Road Films)

► Redoubtable screenwriter John Ridley (*12 Years a Slave*) writes and directs this biopic exploring the year in which Jimi Hendrix was catapulted from obscurity to international fame. André Benjamin skillfully captures Hendrix's rambling profundities and languid physicality. Glaringly absent

from the film are Hendrix's original songs, but Benjamin and guitarist Waddy Wachtel effectively use blues standards to re-create the feel of the legendary guitarist's work. Providing a fascinating window into a specific time, the film closes as Jimi departs for Monterey and rock immortality. *Fritz Meier*

BATTLE OF THE BASE NUTRIENTS pH SHOOTOUT



Dear Big Bud Grower,

For years, we've been telling you about Advanced Nutrients' pH balance-free base nutrients with pH Perfect® Technology and how it's the only state-of-the-art technology that balances your pH for you, and holds it in marijuana's "bud growing sweet spot" for a minimum of one week.

The
"Bud Growing Sweet Spot"
is a pH range of pH 5.5-6.3

Now, we'd like you to see the proof! We put pH Perfect Base Nutrients and supplements head-to-head against all the other top hydroponics brands and filmed it live for you.

We setup three diverse pH ranges of 4.5, 6.5, and 8.5 – then tested all the top brands against Advanced Nutrients to answer the ultimate question ...

Does pH Perfect Technology really work?
And how does it stack up against the competition?

Go Now To:
AdvancedNutrients.com/shootout/



Ask your local hydroponic retailer about what Advanced Nutrients can do for your garden today!

GUARANTEED
100% MONEY BACK

 **Advanced Nutrients**
Raising the Bud Weights... and Reputations... of Top Growers

GOT CBD?



What's in your iPuff?



iPuff
CBD™

f **o** **e** #ipuffvape~1-855-969-PUFF~ipuffvape.com
iPuff CBD™ is a pre-filled PURE CBD vape, 100% Legal in all 50 States



Heart-healthy superfood

MUNCHIES

Om Oatmeal

Nourish yourself with this recipe for a hot, healthy and highly nutritious cereal.

As the California cannabis industry expands and matures, more patients are seeking healthy cannabis-infused food options, including several that won big at the recent High Times Cannabis Cup in San Francisco. Maya Lapid, the founder of Om Edibles, scored a first-place win with her Raw CBD Sipping Cacao, as well as a third-place win with her Cinnamon Maple Tree Hugger Coated Nuts. "I predicted this year was about superfoods!" Maya exclaims. "I wanted to make something healthy and delicious, gluten-free and vegan, that had a long shelf life."

Cannabis, as we all know, is a positive, life-affirming substance with many medicinal benefits, so it makes sense to combine it with foods that contribute to an overall feeling of vitality. "Superfoods," which include whole foods like kale, hemp, salmon, blueberries and cacao, are nutrient-dense and packed with important vitamins and minerals. Noting that more patients have been seeking out these healthy options, Maya says: "Once people see how each ingredient contributes an important benefit, they're much more likely to try it."

For example, check out the ingredients in the recipe

below. Oatmeal is high in soluble fiber, which lowers harmful cholesterol and leaves you with a feeling of satisfied fullness for many hours. Coconut oil is full of healthy fats that help your body eliminate toxins while also improving cell and brain function. Both chia seeds and hemp seeds are nutrient-dense superfoods that contain omega 3 and 6 fatty acids, vitamins, minerals, protein and fiber. Chia seeds are also hydrophilic, absorbing water and helping to hydrate your body. Raw honey strengthens your immune system, provides quick energy, and has a unique blend of vitamins, minerals, enzymes, antioxidants and phytonutrients. (A vegan alternative would be maple syrup.) Sea salt is rich in minerals and trace nutrients, while cinnamon helps with circulation, is packed with antioxidants, and has antimicrobial properties.

So for a warm winter breakfast, try a quick and nourishing bowl of cannabis-infused superfood that will comfort you throughout the day! *Elise McDonough*

OM OATMEAL

1/4 tsp. sea salt
2 cups quick-cooking oats
4 tbsp. coconut oil (preferably raw and organic), infused with either THC or CBD
4 tbsp. chia seeds
4 tbsp. hemp seeds or hemp hearts
2 tsp. cinnamon
2 tbsp. raw honey

In a medium saucepan, bring four cups of water and a quarter-teaspoon of sea salt to a boil. Stir in two cups of oats. Reduce heat and simmer, uncovered, for one minute, stirring occasionally.

Remove the oatmeal from heat, add in all of the other ingredients and stir. Enjoy in good health! *Medicates 4.*

Recipes For Health & Happiness

At the touch of a button make butter, oil, tinctures, & skincare products.



Maple Bacon Bourbon Butter Sauce

Ingredients

Skill level: Easy
Prep time: 10 minutes

Cook time: 15 minutes
Serving size: 2 tablespoons/30 ml
Yield: About 2 cups/480 ml

- 6 tablespoons/90 ml MagicalButter
- 12 ounces/360 ml pure dark amber maple syrup
- 10 strips bacon, sliced crosswise into 1/4 inch wide strips
- 3 ounces/90 ml Maker's Mark bourbon
- 2 tablespoons/30 ml organic cane sugar
- 1 tablespoon/15 ml vanilla paste

How to

1. In a large sauté pan on medium heat, cook the bacon until halfway done, about 5 minutes.
2. Drain the bacon on paper towels to remove excess grease, discard the fat from the pan, and return the meat to heat.
3. Add butter, and cook until the bacon is crispy; then add sugar and vanilla paste, and cook for 1-2 minutes.
4. Add 2 ounces/60 ml of bourbon, and cook for 1-2 minutes.
5. Add maple syrup, and cook for an additional 5 minutes.
6. Stir in the remainder of the bourbon, remove from heat, and decant into a syrup pitcher or serving dish.

Find recipes at magicalbutter.com/recipes, and watch how-to videos at youtube.com/herbalbutter.

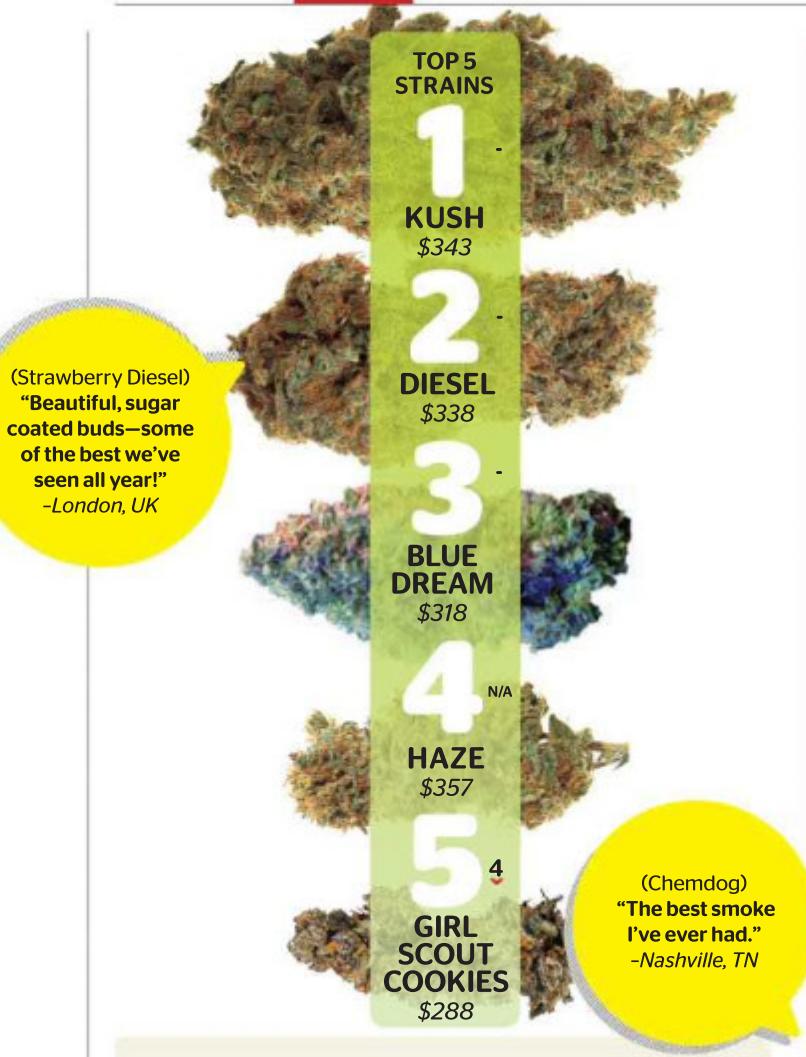
MagicalButter.com



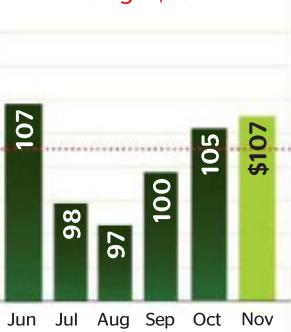
Receive a discount by using code: HTMAG

"Like" us on /MagicalButter • Call (800) 420-4334



**MARKET ANALYSIS**

Index Watch: After five months of wild fluctuation the Mids Index held steady in November and closed the month within \$3 of its year-to-date average. The US Price Index experienced the biggest gain, finishing \$23 above its previous month's average. Kush, Diesel and Blue Dream were the top submitted strains for the third consecutive month.

US Price Index
YTD Average: \$300**Kind Index**
YTD Average: \$372**Mids Index**
YTD Average: \$275**Schwag Index**
YTD Average: \$102

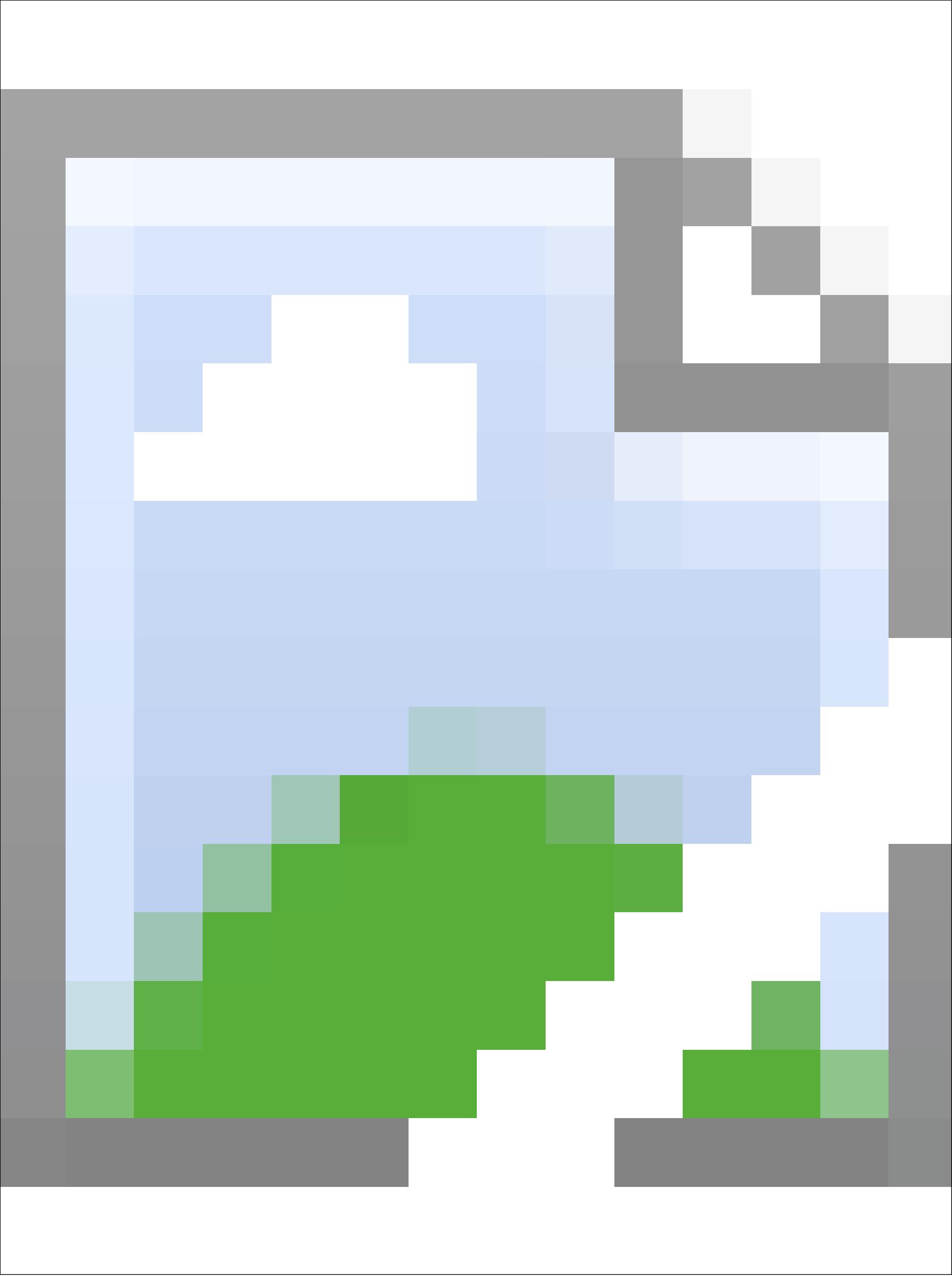
(Northern Lights) "Just more reason to be your own grower." -Mason City, IA

TRANS HIGH MARKET QUOTATIONS

STATE	CITY	STRAIN	PRICE
Alabama	Birmingham	Silver Haze	\$350
Arizona	Phoenix	Grand Daddy Purps	275
Arkansas	Little Rock	Mazar	380
California	Lodi	Girl Scout Cookies	200
	Los Angeles	Platinum Kush	300
Colorado	Denver	Golden Goat	260
	Pueblo	Headband	220
Connecticut	Hartford	Blue Dream	350
Delaware	Wilmington	East Coast Sour Diesel	360
Florida	Orlando	Purple Kush	400
Georgia	Atlanta	Diesel	330
Hawaii	Maui	Tahoe OG	340
Illinois	Chicago	Master Kush	400
Indiana	Indianapolis	God's Gift	260
Iowa	Mason City	Northern Lights	450
Kentucky	Fort Campbell	Sensi Star	380
Louisiana	New Orleans	Headband	420
Maine	Portland	Sour Diesel	320
Maryland	Baltimore	Chemdog	375
Massachusetts	Boston	Kosher Kush	350
Michigan	Traverse City	Blue Dream	280
Minnesota	Minneapolis	Casey Jones	350
Missouri	St. Louis	Bubblegum	350
Montana	Helena	Lowryder	250
Nevada	Las Vegas	Blue Dream	320
New Hampshire	Concord	Jillybean	360
New Jersey	Hoboken	Skywalker OG	380
New York	Brooklyn	Strawberry Cough	400
North Carolina	Raleigh	Star Bud	380
Ohio	Columbus	Girl Scout Cookies	375
Tennessee	Nashville	Chemdog	450
Texas	Austin	Space Queen	400
Washington	Spokane	Cheese	180
Wisconsin	Milwaukee	Blue Dream	320
INTERNATIONAL			
Canada	Toronto	Jack Herer	C\$200
	Victoria	Ghost Train Haze #1	180
United Kingdom	Liverpool	Cheese	£160
	London	Strawberry Diesel	220

High Times wants to know what you're smoking. Submit your strain information including location and price by the ounce to thmq@hightimes.com, or tweet us (#THMQ).

(Space Queen) "No joke... Out of this world." -Austin, TX



3

1

2

4

Hot Products

What's new for cannabis cultivators and connoisseurs.

1 Vapor Trail

\$149.99

vapium.com

Finding a quality vaporizer for flowers isn't easy, so we're excited about the Summit, a new handheld unit from Vapium. With eight temperature settings from 320°F to 450°F, this durable, easy-to-clean vape is versatile as well as sleek. The USB-chargeable lithium-ion battery is long-lasting, and the Summit vibrates when ready for use. Throw in a one-year warranty and you're good for at least 365 days of no-hassle vaping.

2 Mite & Mold Killer

\$15.86, 8 oz.; \$25.86, 32 oz.; \$75.86, 1 gal.
norcalnutrients.com

Growers are raving about the effectiveness of NorCal Nutrients' 86 against spider mites, powdery mildew and mold. Organic and food-grade safe, this easy-to-use spray is made with natural oils, but it's deadly for pests and diseases. Simply apply 86 once a week to the tops and undersides of your leaves and let them dry out during the dark cycle.

3 Gas Act

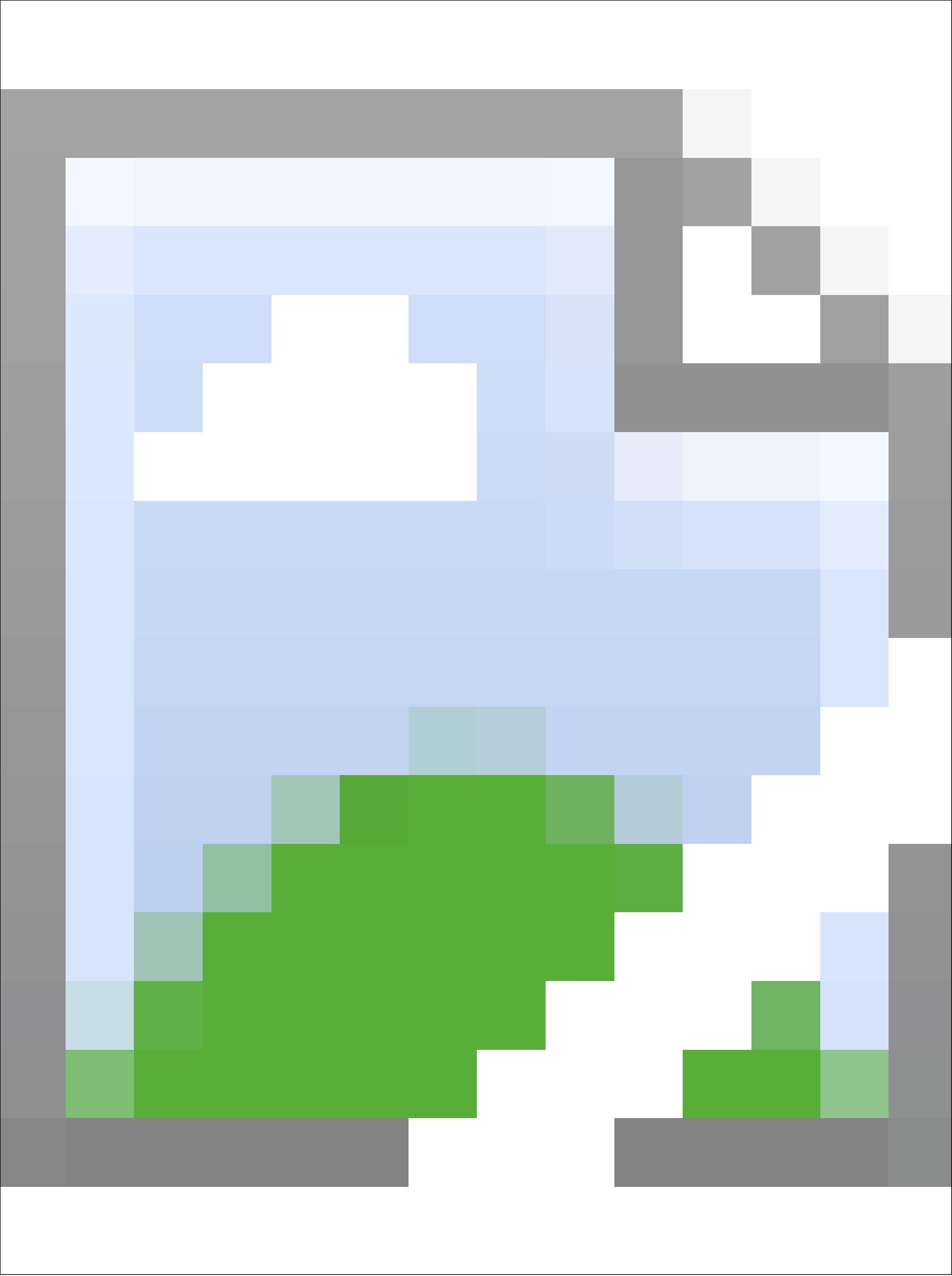
\$39.99, Enhancer; \$24.99, refill pack
tnbnaturals.com

Indoor growers know that adding carbon dioxide can boost yields substantially, but not every indoor grower can afford their own CO₂ tank or generator. Now, even small-scale farmers can organically enlarge their plants using the Enhancer CO₂ dispersal canister. All you need to do is add warm water and shake—plus the handy refill packs mean that you can reuse these canisters again.

4 Clean Air

\$19.99, filter; \$8.99, filter cartridge
sploofybrand.com

Shakespeare famously wrote that "the better part of valor, is discretion"—and stoners know this better than most. So the next time you need to take discreetly, instead of breaking out the dryer sheets and toilet-paper roll, try the Sploofy, a three-piece HEPA filtration system. Simply blow smoke through the filter, and the activated coconut carbon traps odors inside the unit.





dr.dabber
LESS HEAT. MORE FLAVOR.

A LITTLE SOMETHING FOR OUR BIGGEST FANS

The success of our award winning Dr. Dabber Ghost pen was not a matter of luck. It was the culmination of a void in our industry and our vision for a better overall vaporizing experience. Two years later we've gained an immense following and shipped products all over the globe. Our low heat coil calibration has proven to be a fan favorite. This year we're proud to announce the Dr. Dabber Light. A vaporizer pen with a smaller profile and lower price that doesn't compromise on performance. Whether you're a seasoned veteran or dabbing for the first time, the Dr. Dabber Light Kit is the perfect solution.

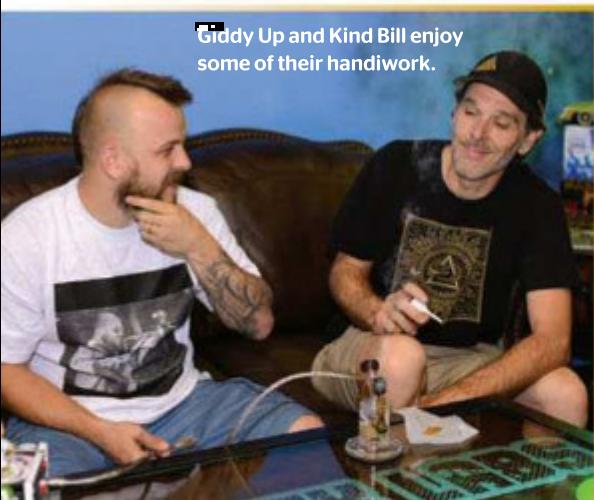
Check out pens, glass and other vape products at DrDabber.com use the code **BIGFAN** for a 20% discount store wide. But hurry, because this offer expires 12/31/15



Big Poppa OG live resin

The Original Diesel Balm

Giddy Up and Kind Bill enjoy some of their handiwork.



here are times when a perfect fusion of circumstances leads to the creation of something entirely new—something that changes the conversation altogether. Such was the case in the fall of 2013, when an inspired grower and hash-maker named William “Kind Bill” Fenger and an intrepid entrepreneur named Giddy Up joined forces and made hash history.

Kind Bill is something of an unsung hero in the concentrate community. Originally from Colorado, he began growing cannabis and making hash while living in Florida in the late 1980s, and he’s since produced hundreds of pounds using a variety of methods in numerous locales. In 2000, when

Dabs have become more delicious than ever thanks to the fresh and flavorful new type of BHO known as “live resin.”
Story & Photos by Ry Prichard

medical marijuana became legal in Colorado, Fenger returned home and began working as a master grower at several large facilities—even starting the first legal grow dedicated exclusively to concentrate production in 2010. It was around this time, while tending these medical gardens, that he had a flash of inspiration.

“As I would trim my harvests,” Fenger recalls, “I always thought, ‘How cool would it be to be smoking oil from this plant while I’m doing this?’ The smell of the plants when they’re still alive, or while they’re being trimmed, is so intoxicating compared to dried buds... that’s what I wanted in an extract.”

Given that up to 95 percent of a plant’s terpenes can be lost from harvest through the final curing process, Fenger decided to try something new. Seeking to produce a concentrate with the terpene profile and pungency of a plant fresh from the garden—and taking a leaf from the method of creating fresh-frozen water hash (which generally makes a better product than dried material)—he tried processing a batch of butane hash oil not from dried buds or trim, but from a freshly harvested, flash-frozen

whole plant. The result was a new type of cannabis concentrate that Kind Bill later dubbed live resin.

For the record, this idea wasn’t entirely new: A few others had also attempted making “fresh-frozen” BHO as early as 2011—but they were all using the open-blasting method, with less than satisfactory results.

“The first batch I ever made was from Original Diesel”—a rare Florida cut—and everyone I showed it to was blown away,” Fenger remembers. “The flavor, smell and effect were amazing to me; it was the best thing I had ever smoked at that time. But the appearance got a lot of flack, the yield was terrible, and it was dangerous—so, ultimately, I rarely did it.”

There were several challenges involved in trying to open-blast live resin. For one thing, freezing the extraction tube made the glass fragile and prone to shattering. This led some blasters to make questionable substitutions—such as using a frozen, drilled-out Thermos rather than a glass tube. Though tweaks like this theoretically made the process slightly safer, they were far from satisfactory for any kind of reliable, large-scale production.



Top left: An Ultra Sonja plant is earmarked for live resin. Bottom left: Frozen Ultra Sonja plants being harvested. Above: Giddy Up and Bill with the extractor that made live resin possible. Right: The tank and column also are frozen while running live resin.



Another problem: If the glass actually survived the extraction process without blowing out, the resulting concentrate was often too green and harsh. The color was due to chlorophyll, which was drawn out along with the terpenes and cannabinoids as the plant material thawed during the slow extraction process. This melting posed yet another problem: Moisture, also drawn from the thawing plant material, led to a finished product that snapped and crackled in a way that most devoted dabbers found unappealing.

And to top it all off, the yields simply weren't there. Stuffing a glass tube with frozen material (which takes up much more space than the dried stuff) typically yielded less than a gram of finished oil, leading most hash-makers to conclude that fresh-frozen BHO would never become a viable commercial product.

Nevertheless, the mental seeds were planted with Fenger's first batch. It wouldn't be until two years later, however—after he met EmoTek Labs founder Giddy Up in September 2013—that they finally grew to fruition.

It all started at the Colorado Springs production facility for the medical dispensary A Cut Above, where Giddy had recently placed one of his early OBE-Dos closed-loop extraction units to produce wax and shatter. The staff was struggling to produce a high-quality product with the new machine,

and so Kind Bill (by this time a nationwide extract consultant) was brought in to help resolve the production issues.

When he was introduced to Giddy Up and his shiny steel, large-capacity extractor, Fenger knew instantly that this was the paradigm shift he'd been waiting for.

"When Giddy told me that the OBE-Dos unit was pressure-rated down to -10°F, I was incredibly excited," Bill recalls. "I immediately knew I could do new things with this unit that weren't possible with glass tubes... I knew that this was the machine that would be able to make what would become live resin."

The duo put their heads together and began experiments with the unit. The first batch of live resin they attempted was a mix of Chem Dog, Chem #4, and Big Poppa OG trim. Unfortunately, they ended up over-vacuuming it in post-processing, and the batch lost much of its sought-after qualities. It wasn't until about a month later, during a late-night oil-making session with a group of fellow extract artists and connoisseurs in the kitchen of Gaia's Garden, that they made the first truly successful batch of live resin—using frozen whole plants of Tres Star from Top Dawg Seeds, grown by Tierra Rojo and his team at Gaia Plant-Based Medicine (now known as MiNDFUL). The group ran several more strains over the next 24 hours, including East Coast Panama Chunk, Chem D and DJ Short's Flo. It was during this extraction marathon that Bill first coined the term "live resin."

Without question, live resin has become the hottest concentrate on the market right now. Since its creation in Colorado, it has quickly won multiple Cannabis Cups and other concentrate competitions, and it's now available in many medical states in one form or another. Its uniquely pungent smell and flavor are the main attraction, but many extract aficionados are also drawn to the near-luminescent color that is common in well-made live resin (which practically glows when it's made from A-plus material).

The most common criticism of live resin is that it has a less stable consistency than shatter made from dry plants, which can cause the BHO to transform quite a bit over time: from a shattery or sappy oil to a slightly cloudy, more granular "sugar" texture, then finally to a soft, sandy consistency that is mostly dry to the touch. These differences in appearance and texture are due to the higher moisture and terpene content.

The shatter consistency is the most stable, but it's also the toughest to attain for most extract artists, since it requires A-plus starting material as well as extremely cold temperatures (or secondary dewaxing) to maintain its stability. Like traditional shatter/sap, the aroma isn't as noticeable as in the other textures, but it tends to retain its terpenes the longest (when properly stored).

VAPOROUS

HYBRID

The pen that doesn't make you choose between concentrate, liquid or oils.

Ability to blend & create new flavors.

Vaporize e-juice, essential oils, and concentrates individually or simultaneously

PRO SERIES

The pen for the concentrate elitist

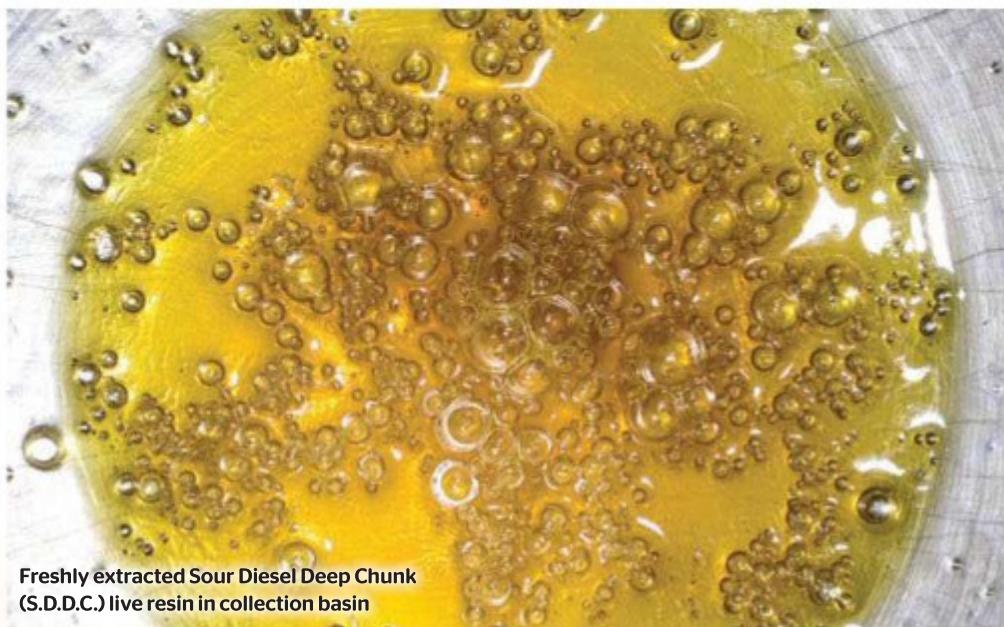
Efficient design minimizes product waste and produces more vapor

Greater flexibility with the concentrate management system prevents concentrate spillage



Vaporous Hybrid and Pro Series are part of the **Vaporous Elite line**. Proudly precision machined in the USA and incorporates Vaporous' Patent Pending technology.

Ask for Vaporous products at your local store or purchase directly online at www.GetVaporous.com.



Freshly extracted Sour Diesel Deep Chunk (S.D.D.C.) live resin in collection basin

The sugar consistency is granular in texture, as mentioned earlier, and comes most often from a long, strong, warm vacuum purge. Sugar is extremely terpene-rich and pungent when fresh, but it tends to lose those qualities more quickly than the other textures.

Much like standard BHO, live resin can also be whipped over heat into a gorgeous light-colored wax/budder, which results in either a soft, pliable product or a dry, crumbly one. Both of these smell incredible, but tend to lose their pungency more quickly than the unwhipped shatter/sap.

Of course, these texture changes depend greatly on the storage methods used, the time elapsed and, most importantly, the plants and strains used in the extraction. Some plants produce a very stable shatter-like resin that stays perfectly clear and breaks when tapped, while others produce a liquidy oil so rich with terpenes that it's impossible to turn into anything else. In any case, since the volatile, water-soluble terpenes begin evaporating from the moment a batch is produced (even visibly separating and leaking into the container), live resin must be stored properly—or, better yet, consumed quickly.



Getting a perfectly stable live resin is primarily a process of trial and error that involves experimenting with a variety of strains, oven temperatures and pressures. However, here are some key variables to keep in mind that can help produce and preserve a top-notch product free of chlorophyll, moisture and most lipids:

- 1) Run the material as fast and as cold as possible.** A very quick, cold extraction process prevents the material from thawing out, which is the most common reason for harsh, green-tinted oil.
- 2) Freeze the column.** Keeping the steel column extremely cold keeps the material inside as cold as the butane, making the whole process much cleaner. (Please note that this step depends on the closed-loop extractor being used, as some are

ITAL HEMP WICK

ALL NATURAL WICK FOR SMOKING.
ENHANCES FLAVOR AND EXPERIENCE.
GREAT FOR USE WITH CONCENTRATES.

* FREE SAMPLE INFO AVAILABLE ON THE WEB SITE!
* AVAILABLE AT BETTER SMOKE SHOPS WORLD WIDE.
* MADE WITH ALL NATURAL HEMP TWINE AND BEES WAX
* ASK FOR IT BY NAME!

www.ITALHEMPWICK.COM

the original
ITAL HEMP WICK
MADE WITH ORGANIC HEMP & BEESWAX

2015, 1ST PLACE HIGH TIMES CANNABIS CUP WINNER

710 KING PEN

THC : VAPE CARTRIDGE



LAB TESTED
SOLVENT FREE
INDICA, SATIVA, & HYBRID
THC OIL OF THE HIGHEST QUALITY
WITH AWARD WINNING

Loud Pack
Extracts

SKYWALKER OG, KING LOUIS OG
THREE KINGS, TRAINWRECK
GREEN CRACK, JACK HERER



TO CARRY AT YOUR COLLECTIVE CONTACT INFO@710KINGPEN.COM

@710KINGPEN

WWW.710KINGPEN.COM

@LOUDPACKEXTRACTS

WWW.LOUNDPACKEXTRACTS.COM

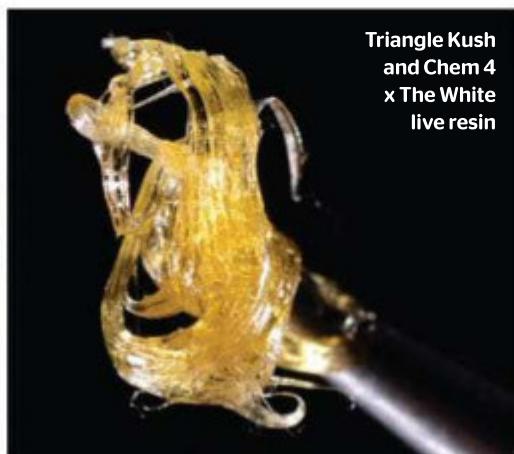


unsuitable for such low temperatures, and the extreme cold may cause seals or clamps to rupture.)

3) Use only top-quality frozen whole plants rather than trim. Though it's possible to get a decent-quality live resin from well-maintained trim, the very process of slicing into the plant with scissors creates openings that allow more chlorophyll to leach out during the extraction. If the plant is harvested quickly (with most of the guard leaves left on), this allows it to get into the freezer much sooner—locking in as much chlorophyll as possible and resulting in less terpene loss.

4) Store live resin in a wine cooler or refrigerator to maintain the texture for as long as possible. The cool, low-humidity environment of a wine cooler presents the ideal conditions for curing and storing live resin. Aside from significantly slowing (or altogether stopping) the nucleation (autobuddering) process that it usually undergoes, keeping live resin in cold storage for months can produce a more interesting, pungent product (much like curing dried flowers or aging wine).

In the years since he and Giddy Up whipped up those first batches in Colorado, Kind Bill has watched dozens of other



extract artists start making live resin—many times with methods different from the one he pioneered. But he doesn't seem to mind: Unlike many concentrate producers, who hoard their techniques to the detriment of the cannabis community at large, Fenger has an open-source mentality that sets him apart.

"I'm just glad that the tech is getting out there, because that means more live resins for everyone—and that's a good thing for the universe, as far as I'm concerned," he says. "I love seeing the progression of this industry, and I look forward to the time when I can smoke something new that makes me forget all about live resin. That's the special magic that keeps me doing this, and keeps me excited about the future of concentrates." 

CigGo® HERBSTICK DELUXE

Direct Temperature Control
248 °F-437 °F Temp Range

Temperature -

Temperature +

ON/OFF

Running 5 Duration 01:29 541.25°F Run12°F/25°F

Automatic power-off after 8 minutes

Running Temperature

Diamond LED indication light & OLED display

0.5gram

Magnetic Cover

Retractable mouthpiece

Motion sensor built-in for automatic heating.

Stand by Mode and Breath LED indication.

17500Hrs Warranty

www.ciggo.com

Tel: (86-755) 2908 9555

E-mail: service@ciggo.com

YouTube  





VAPORNATION

YOUR ONLINE VAPORIZER SUPERSTORE

LOWEST
PRICES
GUARANTEED

FREE
SHIPPING

FREE
GIFTS



KANDYPENS
MICRO-DX



VAPIR RISE^{2.0}
ULTIMATE



Vaporite
TITANITE

GET ^{20%}_{OFF} WITH COUPON CODE:
HIGHTIMES
WWW.VAPORNATION.COM

TEL : 888.321.VAPOR (8276)

*certain restrictions apply

WHITE RHINO TORRID

THE ALL NEW TORRID BY WHITE RHINO

As times change so does technology. We at White Rhino find the importance of elevating our designs and products to keep up with todays technology users. This is a device we know will enhance the experience for our customers. The all new Torrid is equipped with a 6 in 1 adapter set to universally fit almost every waterpipe on the market. Torrid has a replaceable triple coil atomizer for quicker heating and for a better vaping experience. We have also intergrated a new reclaimer system to reclaim your unused product. Best of all not only have we engineered another amazing product we made it available in 8 vibrant colors to fit your personal lifestyle.



FOR USE WITH
WAXY OILS

**USE CODE "TORRID" TO SAVE
10% ON YOUR ORDER**

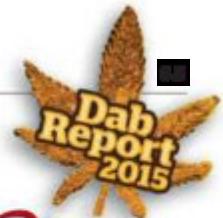


PATENT PENDING



@WHITERHINOPRODUCTS #WHITERHINOLIFE #WHITERHINO

WHITERHINOPRODUCTS.COM | TOLL FREE (855) 803 8883



The Laws of Extraction

While more and more states are legalizing or decriminalizing cannabis, most are not quite so progressive when it comes to concentrates.

By Rezwan Khan, JD

Much like the years leading up to the historic fall of the Berlin Wall, the walls of marijuana prohibition in the United States are systematically being chipped away—brick by brick, state by state. Today, almost 20 years after California's first medical marijuana initiative passed in 1996, we're living with a complicated, often-ambiguous patchwork of marijuana laws that seems to bring more confusion than clarity to this hot-button issue. And that goes double for concentrates.

As public support for legalizing and regulating cannabis (both medical and recreational) continues to rise, so does the demand for concentrates. It's estimated that in just the first year of legal recreational marijuana in Colorado and Washington, concentrates made up 40 to 60 percent of the sales in these states. However, despite their popularity, concentrates continue to be a polarizing topic, for a variety of reasons.

First, the debate continues over the best extraction methods and how they affect the end product's potency, consistency, utility and safety. While some still fear negative health effects from ingesting residual butane, the science thus far shows this concern to be unfounded: Pharmaceutical-grade hydrocarbon solvents have a low toxicity, which is why the Food and Drug Administration currently allows up to 5,000 ppm (parts per million) in goods sold to the public. In legal cannabis markets, lab tests have consistently shown that the average level found in concentrates is zero to 300 ppm.

There is also the public-relations problem: It's no secret that smoking dabs through an oil rig, especially when using a blowtorch, looks a little too similar to freebasing crack. Even more worrisome than the "cracky" aesthetics of dabbing, however, are the backyard extractors doing sketchy runs at home—with



dangerous and potentially explosive results. As a result, the media have been quick to sensationalize and even demonize the process of cannabis extraction. This divisive debate—with one side asserting that concentrates are unhealthy and potentially dangerous, and the other side insisting that they're the best thing to happen since penicillin—is reflected by the vast disparity in the "laws of extraction," or the regulations and penalties covering the manufacture, possession and use of concentrates in all 50 states.

On the one hand are those states that treat cannabis concentrates like the devil's drip, doling out maximum penalties for minimum offenses. In Mississippi, for example, anything over 0.01 of a gram is an automatic felony carrying a mandatory two-year sentence. (Just for scale, 0.01 of a gram is less than the reclaim currently in your rig.) And in Oklahoma, manufacturing or distributing any form of hash can land you in prison for life. A *life sentence*, for just a few dabs. Let that one sink in for a minute.

On the other end of the spectrum are the "pro-oil" states, which seem to be headed in a far saner direction. One example is Colorado, which has adopted a two-pronged approach. For licensed professional extractors, the state has implemented a sensible, progressive regulation system, including certifications to

ensure the safety and quality of concentrate production. For amateur blasters, however, the state has made unlicensed, at-home blasting a Class 2 felony. Another interesting example is Georgia, which has legalized possession of up to 20 ounces of oil for medicinal use.

To further complicate the landscape, 15 states have now passed "CBD-only" legislation—providing for the medicinal use of concentrates high in CBD, but with little to no THC. The problem with initiatives like these is that they fail to understand the efficacy of whole-plant marijuana as a medicine (especially the so-called "entourage effect") and thus allow only extremely limited applications instead of moving us toward a broader solution.

Take Gregg Abbott, the Republican governor of Texas: After vowing that the state would never legalize cannabis for recreational or medical use on his watch, Abbott then signed a narrowly drafted bill that provides for the legal use of CBD oil to treat epilepsy. Not AIDS, not glaucoma, not cancer—*only epilepsy*. Legislation like this seems more like a quick political fix than a long-term practical solution, and it forces one to wonder whether these lawmakers used any logic or conducted any research at all, or if they just based the language of their proposed legislation on sound bites from Dr. Sanjay Gupta's CNN specials.



Some of the evidence confiscated by the DEA as a result of their Operation Shattered Dreams raids

Finally, there's the bellwether state of California, which opened the door to medical marijuana in the first place and arguably produces more BHO than any other state. Even so, California is still without any comprehensive legislation covering concentrates. Last December, an appellate court finally clarified that possession of concentrates is protected under the state's Compassionate Use Act and medical marijuana laws. But without any legislation in place, creative prosecutors have resorted to exploiting antiquated laws covering PCP and methamphetamine production to prosecute legitimate concentrate-makers.

Case in point: On September 16, 2014, after a year of investigation (including the monitoring of Instagram pages), the DEA launched Operation Shattered Dreams—raiding, among other locations, an alleged “clandestine THC extraction

In Oklahoma, manufacturing or distributing any form of hash can land you in prison for life. *A life sentence*, for just a few dabs. Let that one sink in for a minute.

laboratory” at the San Diego home of Matthew Darby (a.k.a. “Dr. Darby” of Top Shelf Life), a well-known figure in the cannabis community. Darby was charged under the California Health and Safety Code’s Section 11379.6, which was drafted to root out meth and PCP manufacturing in the 1980s. Under this statute, it remains a felony to manufacture *any* amount of concentrated cannabis using a chemical-extraction process. (I’ve even seen particularly aggressive prosecutors

make the absurd argument that since H₂O is a chemical in the extraction process, its use should warrant the same penalty.) As a result, Darby faced the possibility of up to *seven years* in state prison for what he believed was the lawful production of medicine under California law. Fortunately, thanks to attorney Nathan Shaman, he ended up with probation and only a misdemeanor on his record.

Given such glaring disparities in marijuana laws across the country, we can only hope that extractors like Darby, who provide much-needed medicine for sick individuals, will continue to be brave enough to do so, and that lawmakers will eventually wake up and realize that they are not only criminalizing people for violating outdated and ambiguous cannabis laws, but also limiting the discovery of treatments for actual diseases.

While the full medicinal potential of concentrates has yet to be realized, we already know enough to conclude that they are the future of medical cannabis. The ability to grow strains high in CBD, THC, CBN, CBG and so forth, and then to extract their trichomes into a concentrate, enables doctors and caregivers to provide specific treatments for a variety of ailments (including epilepsy, glaucoma, depression, chronic pain, inflammatory

COURTESY OF DEA.GOV

Digital.
All-in-one.
Wireless.
Want.

Prodigy by SPRY

feelspry.com



- ▲ Strongest vape pen on the market
- ▲ Lifetime warranty
- ▲ 1,000mg refill cartridges
- ▲ Healthy, all organic source material



1ST Place
Best Vaporizer
2015



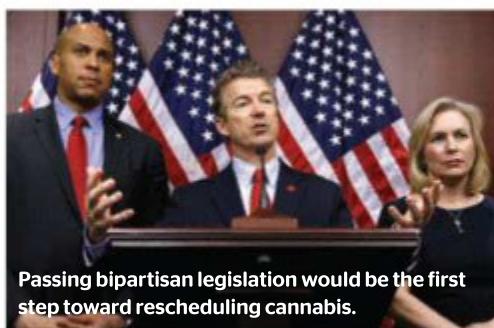
Delta9.com

@DELTA9PRODUCTS

disorders and even cancer). Moreover, these concentrates are free of fungus, mold, or bacteria and can be administered with pinpoint accuracy using a dialed-in delivery system that can be measured and regimented (more akin to what you might expect from a regulated, nutraceutical/pharma-grade product).

This high degree of precision, combined with its potential benefits, now has many researchers looking to the budding science of cannabis extraction as their primary focus. Early findings have piqued the interest of both legislators and the medical community, as researchers, scientists and patients continue to put pressure on state and federal lawmakers to lift the restrictions on concentrates, which have already proven their safety and efficacy far beyond many pharmaceuticals currently on the market.

We've already seen one major restriction removed this June, when the Obama administration eliminated the "public-health service review" heretofore required for the approval of research proposals involving marijuana. Hopefully, this continuing pressure will eventually lead to the reclassification of cannabis from Schedule 1 to something more palatable. Recently, the American Academy of Pediatrics requested the DEA to reschedule



Passing bipartisan legislation would be the first step toward rescheduling cannabis.

Researchers, scientists and patients continue to put pressure on state and federal lawmakers to lift the restrictions on concentrates.

marijuana in order to facilitate research into its medical use—and even the US surgeon general has questioned the appropriateness of retaining it as Schedule I drug. Rescheduling marijuana would not only remove the single biggest obstacle to scientific and medical research; it would also untie the hands of physicians and banking institutions that fear the current federal penalties.

Considering that the main opposition to ending pot prohibition has, historically, come from the right, it's highly likely that

with the thorough debunking of "reefer madness," we'll see significant change coming soon. We've already witnessed the beginnings of a bipartisan push to decriminalize marijuana on the federal level from Senators Kirsten Gillibrand (D-NY), Cory Booker (D-NJ) and Rand Paul (R-KY). And with more than half of the American electorate already residing in medical marijuana states, legalization may provide an unprecedented opportunity to win over new voters. Of course, this strategy hinges on educating the public enough to overcome 80 years of anti-pot propaganda. Ultimately, change will come as an older generation of lawmakers steps down or admits what the scientific community already knows: that concentrates are the most effective way to administer medical marijuana to patients in desperate need of a real solution.

So what is the legal future of cannabis concentrates in the United States? I'd say that, based on the medical implications—combined with the financial projections for what is estimated to become a \$10 billion industry in the next few years—it is inevitable that we will have the full legalization and regulation of cannabis concentrates for medical use by 2018.

As for recreational use, well ... we'll just have to wait and see. *

"The true dabbing experience with dose control."

Available for pre-order | GoFirePen.com

[@gofirepen](https://twitter.com/gofirepen) [@gofirepen](https://www.instagram.com/gofirepen) [@gofirepen](https://www.facebook.com/gofirepen)

PLEASE CONSUME RESPONSIBLY

©2015 GoFire. Evolve™ and GoFirePen.com are registered trademarks of GoFire™ LLC. Concentrated cannabis consumption impairs your ability to operate machinery. This product has not yet been approved by the FDA.

ULTRA TRIMMER



Food grade stainless steel stationary guards
Slots are tapered to gauge the size of your bud
Cola cutter 1/2" diameter runs branches in seconds
Reversible from concave to convex
Aircraft Aluminum Frame - strong & lightweight
Adjustable speed controller with heavy duty motor
Easily portable - Easy to clean in minutes

CALIFORNIA CANNABIS
INDUSTRY ASSOCIATION



TRICHOMES ARE EVERYTHING!!



Tumbling bud in round cylindrical devices destroys trichomes. It will trim wet bud but we don't condone that. Your product should hang and cure for at least 10 to 14 days.

The way it's been done for thousands of years. [Fans help in this day and age]
Scissors used to be the only way to trim dry bud with out destroying trichomes. It is very time consuming. Ergo a true set of mechanical scissors for dry bud, but better - scissors don't cut when they spring back. Ultra Trimmer cuts both ways and doesn't stop until you turn it off. Our trimmers are SO effective, the biggest names in the Concentrate industry will ONLY use the "sugar shake" from the UltraTrimmer because it yields the same as hand scissor trimmed bud. Other machines simply don't yield enough to matter.

With its slow moving parts (NO VIBRATION) it simply snips the bud, [ADJUSTABLE SPEED] at 232 snips per revolution and many buds at a time. Once the bud has been snipped it will not snip any more bud material until the bud is moved. The Ultra Trimmer can trim 4 ounces in 5 minutes - without destroying trichomes! We make larger devices as well. These larger devices are custom made to order and can handle processing 12-18 lbs per HOUR!

The LAST trimmer you'll buy!

www.UltraTrimmer.com

855-698-7466

855-MY-TRIMMER

Truth is...

we light plants like f***ing rock stars.



Your grow boxes may be cool indie rockers, but your plants don't need to be starving musicians. We say light 'em up like rock stars and watch 'em jam!

Truth Lighting's LED lighting systems are the product of over a decade of research in optimization of indoor cultivation conditions for multiple Cannabis strains.

Get the TRUTH: store.americangreen.com. Promo HT10 for 10% off July-Sept.



by

AMERICAN GREEN
★

DISCOVER OUR OTHER GREAT PRODUCTS AT AMERICANGREEN.COM, OR CALL 480-443-1600.



JURASSIC
WATER

H | E | A | L





Electronic Nail Buyer's Guide

The editorial staff here at *High Times* gathered some of the top electronic nails on the market, put them to the test and rated them on a scale from one to five. Here's a breakdown of how they measured up.

1st Place



3rd Place



3

NO.	COMPANY	MODEL	INCLUDES	FEATURES / OPTIONS	PRICE	WEBSITE	REVIEW / RATING
1	D-Nail	The Ninja Nail Kit	Digital 1.2 control station in removable metal insert; 12" Tuff Protection T-Case; choice of nail; coil heater with kevlar sheath; decorative pin; power cord; instruction manual	Color options; case available in six colors, inserts in five colors, pin in six colors; two-year warranty (upgradable to lifetime +\$100); Kanthal nichrome coil heater; large variety of nails to choose from, including Hive and Highly Educated (some for extra cost)	\$650 (Control box only: \$380)	d-nail.com	Pros: heats quickly; easy connections; light cord, steady temp; very versatile, cool, solid case Cons: can't hold down temp control button Rating: 4.3
2	D-Nail	D-Nail 1.2 Kameleon Bundle	Digital 1.2 control station with Kameleon custom painted enclosure; SIC Nail on V1.2 base; flat coil heater; Gen 2 universal titanium carb cap with threaded rod handle; instruction manual	Compatible with all 14mm and 18mm female rigs, drop-downs, and adapters; Displays heater temperature (accurate to the degree) and can be programmed to the specific temperature of your choosing; two year warranty (upgradable to lifetime +\$100)	\$710	d-nail.com	Pros: sleek, discreet; cool holographic case; smart power setup (in/out on opposite ends of control unit); can hold down temp button Cons: slow to heat; temp calibration seems off Rating: 3.5
3	Electro Dabber	Electro Dabber	Titanium nail head; stainless steel heating element; smell-proof Pelican hard shell case; 45° and 90° angle adapters; 14mm/18mm adapter; stainless steel dab tool; 7ml acrylic container; 18v power transformer		\$225-\$350	facebook.com/pages/Electro-Dabber/145430092330387	Pros: no control unit—just a nail and a cord; heats fast; Cons: no temp meter or adjuster; wires became exposed during use; cable is not well insulated or sturdy; hit tasted like electrical components Rating: 1.9
4	Errlectric/Jibtronix Corp.	Errlectric Concentration Station E200 / E200-120	7.5' Power cord, heating coil, 5' whip, quartz fork tool, digital control station, Grade 2 titanium domeless nail, quartz nail head insert, heater stand; VotexCap titanium carb cap/dab tool; stainless steel heat shield; hard plastic travel case, titanium nail brush	Comes in black, white, pink or limited edition blue; automatic shut-off timer and auto high-temp shut off; full range of accessories sold separately; dab tool/carb cap available in many colors	\$479-\$695 (depending on options)	errlectric.com	Pros: auto-off timer; heavy, reinforced cord; hits well; excellent temp control/programmability; cool nail stand & tool; unique quartz nail head insert Cons: whistle while clearing the rig; small dabbing surface Rating: 4.06
5	Escape / Domeless	710 Whip	Ceramic universal flat coil nail by Domeless; ceramic heating element; ceramic carb cap; analog controller; soft zippered carrying case; tether strap	Available in seven different accent colors	\$145	domeless.com ; 710.life	Pros: convenient, compact pouch; very portable Cons: bad smell/taste even after seasoning nail; no on/off indicator or temp gauge/control; bad insulation; exposed wires next to heating element; flimsy cable; carb cap hard to use Rating: 1.6



E-Nail Review Video

Watch highlights from the High Times crew's 7/10 testing session at: hightimes.com/enailreview



2nd Place



NO.	COMPANY	MODEL	INCLUDES	FEATURES / OPTIONS	PRICE	WEBSITE	REVIEW / RATING
6	Galaxy	Galaxy ENail	Launch Pad digital control unit; ceramic carb cap; titanium dab tool; ceramic 14/18mm female and male adapters; stainless steel heating unit with ceramic nail; power cord	The only quartz infused ceramic dish and all ceramic air pathway; three-year warranty against manufacturer defects, available in five colors; made in Santa Cruz, CA	\$399	galaxyenails.com	Pros: delivers big dabs; sleek, space age design; clear digital display and easy to use buttons; solid cord; steady base Cons: slow heat up; hard to clean out; smolders after repeated use; creates a foul smell Rating: 3.9
7	Happy Daddy	Analog D-Nail	Flat coil heating unit w/ fabric-coated whip; power cord w/in-line control dial; titanium dabber; Genesis nail (extra)	Also available in Digital model; available with or without proprietary Genesis Nail system	Analog: \$160; (Digital: \$450; (w/ Genesis nail +\$200)	happydaddyproducts.net	Pros: super smooth hits; in-line control unit; Genesis nail is solid; nice connector cord Cons: no on/off indicator or temp gauge; analog temp dial hard to tune to desired temp; oil drips into nail components causing smoke; heating element glowed red hot Rating: 2.3
8	Mi Dabz	Mi Dabz ENail Kit	Digital control station, 5' power cord; heater coil / whip; dab tool w/carb cap	Comes in your choice of eight different case colors and four display colors, and quartz or titanium nail (for \$40 extra); two-year warranty	\$260 (w/ti nail \$300)	midabz.com	Pros: Durable, stylish control box (looks like a ballast); decent hit; heats super fast; reinforced wires; compact Cons: bad air/smoke ratio (too much airflow); heat unit exposed and red hot (dangerous) Rating: 3.2
9	Torchless Nail	Sour Apple Green Kit	Strap-on 1.5 amp battery pack; two borosilicate glass nails / heating element adapters (9mm male & 14mm female); two titanium elements (bowls); 30" fabric-coated heating cord; power / charger cord	99.6% Grade 2 titanium; rechargeable battery-powered electric bowl; glass bowl; 30 uses on every charge; straps to any 2-5" tube; heats to 500°F in two seconds; fits: 19mm female, 14 mm male; 30" heating cord; up to 1500 uses; battery allows 300+ charges	\$370	torchlessnail.com	Pros: push-button offers immediate heat on demand; very fast cool-down; cordless (after charging); super portable; great concept but needs work Cons: only stays on for 8 seconds; need a large tube rig for strap to work well; dabbing surface pops out of nail too easily; too much airflow; tastes metallic Rating: 2.6
10	Torchless Electronics	710 Pyramidal	Pyramidal digital control station; stainless steel whip / 16mm heating coil; power cord; Vapenwiser titanium nail	Three-year warranty	\$420	facebook.com/torchless	Pros: sleek design, great indicators for power/juice to nail (can see current and desired temps simultaneously); long, sturdy steel cord; cool top logo light; stable and durable; big hits; good air flow Cons: a little bulky, not very portable Rating: 4.25
11	Yocan	Yocan Beta Portable E-Nail	Tiny metal battery/control box, plastic whip, large metal heating unit/nail, three Nero nail head heating elements	Heats to 1300°F within three seconds; universal male and female joint attachment; 510 threaded; compatible with all standard vape mods and batteries	\$149.95	yocantech.com	Pros: super portable; cordless (after charge); sleek design; unique digital display Cons: not satisfying hits; no cord enclosed to charge unit (must produce your own ??? cord); didn't seem to get hot enough; more like a vaporizer attached to a bong than a dab nail Rating: 1.7

Vaporization,
meet sophistication.



The Indica™ vaporizer—pure vaporization,
ultimate control. Available at indica2.com

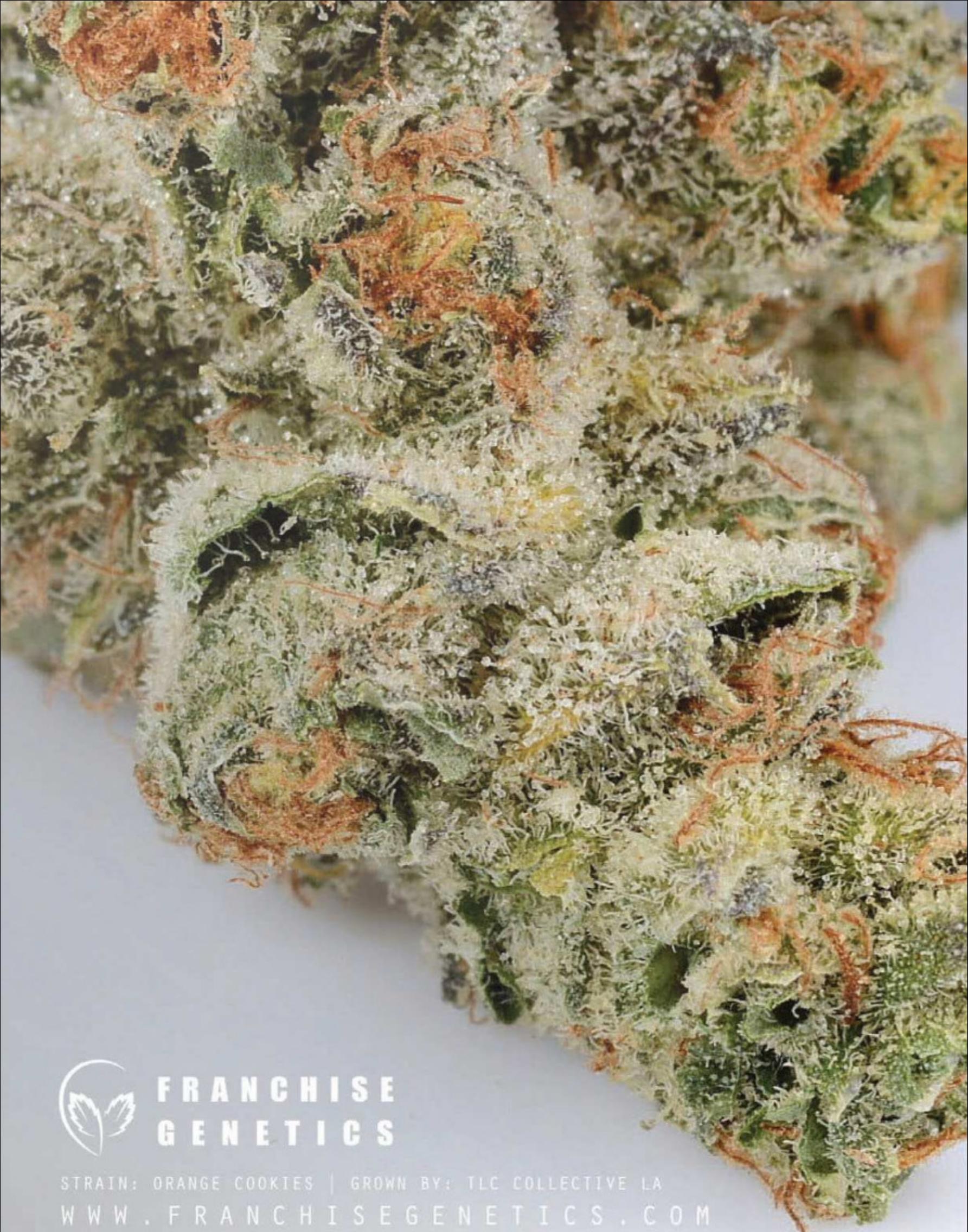
indica



FRANCHISE
GENETICS

STRAIN: ORANGE COOKIES | GROWN BY: TLC COLLECTIVE LA

WWW.FRANCHISEGENETICS.COM



POWER Si Si(oh4)= 2.7% = OSA



POWERSI IS THE ORIGINAL PATENTED FORM OF STABILIZED, BIO-AVAILABLE SILICIC ACID FOR CROPS. IT IS A PROPRIETARY MIX OF NATURAL MICRO-ELEMENTS SUPPLEMENTED WITH ORTHOSILICIC ACID (OSA) & AMINO ACIDS. IT IS PURE, HIGHLY CONCENTRATED, WITH FAST VISIBLE EFFECTS.

WWW.POWERSILICIC.COM

abscent

THE MOST POWERFUL ODOR-EATING BAGS IN THE WORLD.
DOUBLE-LAYER SEAMLESS CARBON LINING. DURABLE EXTERIOR.



WWW.ABSCENTDESIGN.COM



KIND LED



8888



KIND LED

WINNER
GEAR OF THE YEAR
2014

K5 Series
"BEST GROW LIGHT"
KINDEST YIELDS

WINNER
GEAR OF THE YEAR
2015

PERFECT MIX OF 3 & 5 WATT DIODES INCREASES OVERALL EFFICIENCY AND INTENSITY, RESULTING IN HUGE YIELDS

KINDEST ADJUSTABLE SPECTRUM

FULL SPECTRUM CONTROL ALLOWS DIGITAL TUNING OF SPECTRUM TO MATCH PLANT TYPE AT ANY STAGE OF GROWTH, VEG OR FLOWER!

KINDEST FOOTPRINT

LARGEST FOOTPRINT OF ANY LED IN THE INDUSTRY, NOW MATCHING THAT OF IT'S HPS COUNTERPART

KINDEST INTENSITY

SECONDARY OPTICAL LENS MAGNIFIES PAR AND INCREASES CANOPY PENETRATION BY UP TO 200%

XL750



Dimensions: 23" x 17" x 3.5"

Weight: 28lbs

Actual Wattage: 450w, 120-240v

HID Wattage Equivalent: 750w

Total Diodes: 208

Footprint: 4' x 4'

Infrared/Ultraviolet Diodes: Yes

XL1000



Dimensions: 26" x 20" x 3.5"

Weight: 36lbs

Actual Wattage: 650w, 120-240v

HID Wattage Equivalent: 1000w

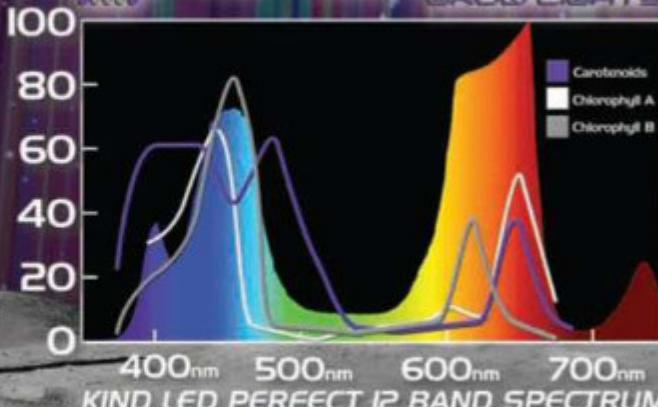
Total Diodes: 320

Footprint: 5' x 5'

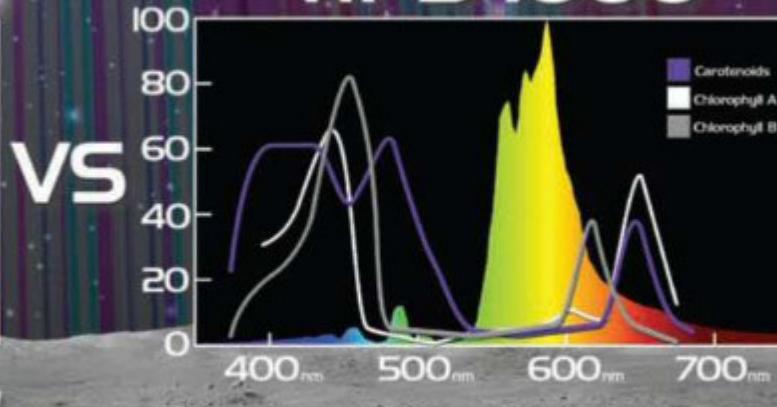
Infrared/Ultraviolet Diodes: Yes

HPS 1000

KIND LED GROW LIGHTS



VS



It's All About Atmosphere

Technology has made dialing in your grow easier than ever. *By Nico Escondido*



When it comes to indoor cultivation, it's all about atmospheric control—after all, that's one of the primary advantages of growing indoors. But what exactly does this entail? What are the best practices for refining your garden to get the best quality and the highest yields?

Let's take a look at some of the major aspects of atmospheric control, as well as some of the latest resources and developments that today's technology has to offer in making your garden a happy home for our favorite plant.

The Basics

When we discuss atmospheric control, it all comes down to three major components: light, temperature and humidity. There are tangents to each of these categories that we will touch on as well, but this basic breakdown covers the general elements that most affect conditions in an indoor grow.

Plants are pretty, but high above the canopy there is a lot going on. Garden: MMJ America, Denver.

Light

We all know that light is essential for plant life. Light supplies the energy used in photosynthesis, the process that creates food for the plant. However, the same light so vital to a plant's health and development also produces a significant amount of heat. This heat needs to be dealt with, and there are several ways of doing that.

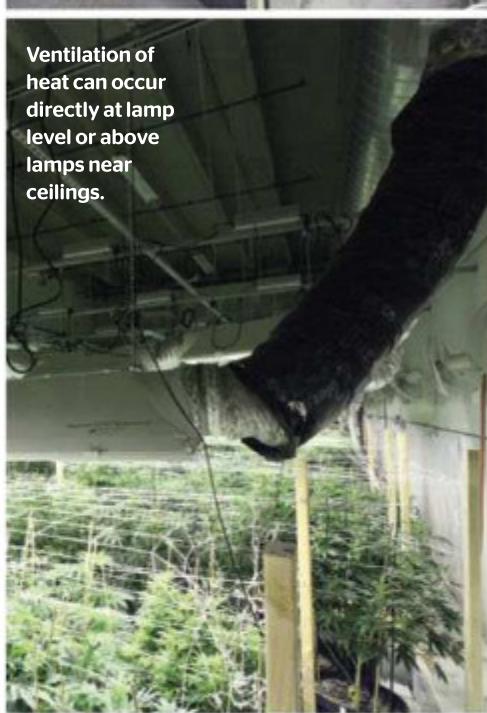
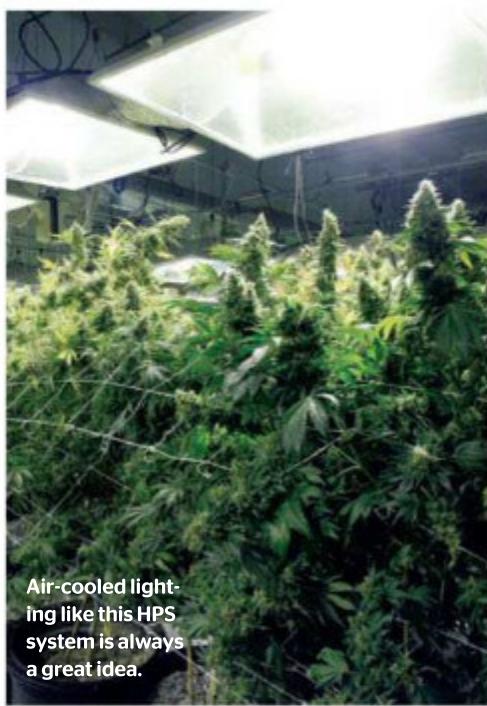
Of course, adding air-conditioning to the growroom is one solution, but this can get costly, especially for larger-scale grows. Perhaps the most popular method for dealing with light-generated heat is to use a combination of lamp cooling and room exhaust (such ventilation will be covered more in a bit). Lamp cooling involves the use of fans either to blow cool air over the bulbs, or to suck hot air off of them and expel it from the garden. Some advanced growers might even consider using water-filled jackets to cool the bulbs, but this technology has proved expensive and less effective.

Another solution is to manage the lighting using timers and controllers that allow individual or groups of lights to alternate their running times when temperatures begin to climb above a set point. Today, there are plenty of controllers that offer options for lighting control, and some of them even allow remote control of the entire growroom (which we'll get to shortly).

Temperature

The growroom's temperature is the direct result of both lighting and the outdoor climate: The hotter it is outside, the hotter it gets in your growroom as well. As temperatures begin to rise, photosynthesis, CO₂ uptake and plant growth all begin to slow. In climates with higher temps, growers usually have little choice but to install some sort of AC unit to aid in cooling their gardens.

Optimal temperatures vary, depending on the focus. For cannabis plants (with the exception of cuttings), the ideal growroom temperature is around 72°F, with a minimum of about 66°F and a maximum of 78°F. In terms of the plant's root zone, this needs to be kept fairly cool—usually under 70°F. Grow-medium temperatures can be easily taken with a soil probe or stake thermometer. Equally important in hydroponic systems is the temperature of the nutrient solution being used: Advanced growers will often employ water chillers to keep the temperature below 65°F in order to help cut down on water-borne pathogens.



Humidity

Humidity is a crucial and sometimes-overlooked factor in many indoor grows. If the humidity is too low, CO₂ and light absorption are minimized—but if it's too high, pathogens, bacteria, mold and pests begin to flourish. Both air temperature and ambient moisture contribute to a garden's humidity; as the temperature drops, the humidity level begins to rise.

It's a delicate balancing act, but big swings in a growroom's temperature can severely affect the humidity. If temps drop during the dark cycle by more than 12°F to 14°F, humidity may climb beyond optimal levels, at which point flowers can develop botrytis and mildew may form on the leaves and walls. If condensation sets in, there are big problems brewing. Optimal humidity levels for indoor grows range from 40% to 60%, but the higher levels make plants more susceptible to pests and disease. Advanced growers usually settle on a humidity level from 45% to 50%.

Advanced Atmospheric Control

Ventilation & Circulation

Controlling ventilation and circulation is one of the best (and easiest) ways to address or avoid many of the problems associated with temperature and humidity. Good ventilation—meaning the intake of fresh, filtered air and the exhaust of warm, spent air—is an essential component of atmospheric control. Good air circulation is another important factor, as it prevents heat pockets from building up and helps move air over plants for respiration.

The best place to bring fresh air into the growroom is near the floor, where air temperatures are cooler; the best place to exhaust air is near the ceiling and above the light banks, where air temps are the hottest. It is also wise to filter any incoming air to remove dust and pathogens, and to filter the exhaust to remove any odors.

The best way to coordinate the ventilation in your growroom is through automated-control systems. These act as on/off switches for everything from the intake and exhaust fans to the CO₂ enrichment system and light banks. The controllers measure atmospheric factors such as temperature, humidity and CO₂ levels. When the temp gets too high (i.e., past a specific point set by the grower), the controllers can turn on fans to exhaust the hot air, or turn off certain lights to cool the garden's atmosphere.

ROCKY MOUNTAIN HIGH

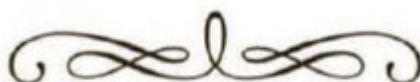
COLORADO'S PREMIUM MARIJUANA BRAND



SWEET SILVER HAZE - GROWN BY GREG AVERILL



8 LOCATIONS ACROSS COLORADO



DENVER

CARBONDALE

DURANGO

MONROSE



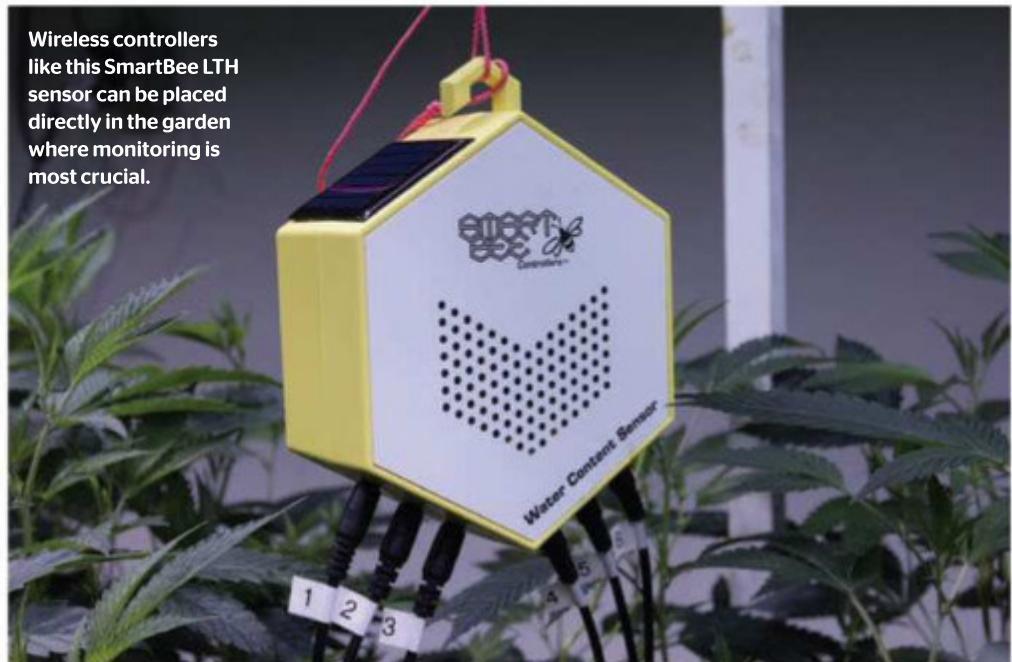
Rocky Mountain High Dispensaries

@rockymountainhighdispensaries

ROCKYMOUNTAINHIGH.CO

Supplemental CO₂

Carbon dioxide is an essential part of photosynthesis. Many commercial growers add CO₂ to help boost yields, but in smaller gardens it's not always necessary. The primary consideration when using a CO₂-enrichment system is how it interacts with other atmospheric-control systems. For example, careful coordination is needed to ensure that the CO₂ system isn't running at the same time as the exhaust fans—otherwise, the CO₂ will be wasted. Also important is ensuring that the CO₂ system only runs during the light cycle, when photosynthesis is occurring.



Technology & Atmospheric Control

In the past few decades, indoor horticultural has relied on various devices to manage the environmental conditions in our gardens. These devices range from the very basic, such as simple timers, to more complex units that merge several system controls into one platform. The most advanced of these controllers are all-in-one units that can automate and manage entire grows from a single panel.

Today, the manufacturers of these devices are making use of the latest technologies to take the most advanced controllers one step further. Utilizing the power of the Internet and Wi-Fi networks that are virtually omnipresent today, these devices have morphed into fully automated remote-control systems that are accessible anywhere there is a wireless signal.

SmartBee Controllers

One such company on the forefront of fully automated, remote-control garden-management solutions is SmartBee Controllers. Using an array of different sensor types that wirelessly interface with a central

control hub, SmartBee's equipment can manage all atmospheric conditions, sending real-time data to a smartphone, tablet or desktop computer for remote access and control over the growroom—even from hundreds of miles away.

How It Works

The SmartBee system uses a series of sensors that continually take measurements of the growroom's atmosphere, including temperature, humidity and CO₂ levels. Other controllers connect to the light system and allow growers to turn these on and off for greater control

Higher Tech

The SmartBee system enables growers to have full access and control over all of the environmental conditions in their garden, even from thousands of miles away. Here's a quick look at the various types of sensors, controllers and other gear employed by the system, plus their various functions.

LTH Sensors: Also known as light, temperature, and humidity sensors (hence the "LTH"), these small devices are placed around the growroom to continuously monitor these conditions wirelessly. Another smart feature is a pair of solar panels on top of the unit that harvest excess energy from the lights, helping to keep the battery charged at all times. You can deploy multiple LTH sensors to monitor specific areas of your garden, utilizing the readings from individual sensors via your handheld device.

CO₂ Sensors: For use in growrooms employing supplemental CO₂, these sensors take samples of the garden air and send the data to the Hive Gateway. The Hive then activates or deactivates your CO₂-enrichment system and exhaust equipment as necessary to maintain the ppm levels based on your set point.



Medium & Irrigation Control: Among the most useful components of the SmartBee system are the soil probes and irrigation controls. These combine the benefits of timed and measured feedings with actual measurements of the volumetric water content of your medium.

As the water-content sensors measure the moisture level within the medium, alerts can be sent to the grower if the levels fall below a set limit. These probes can also be used more simply as an automated timer that turns a watering system on and off at set times and durations, depending on the moisture content within the medium. Once the set points are established, the Hive Gateway gathers and interprets sensor data and waters accordingly, thus maximizing the efficiency of your current irrigation system.



AVAILABLE AT



soul

PROFESSIONAL YIELDS. CONNOISSEUR QUALITY.

Soul brings it all together. A premium plant nutrient with added organics, Soul provides your plants with the best of both worlds. WWW.SOULYIELDS.COM



aurora
innovations

Power & Security Control: Power-control modules and security interfaces are also available with the SmartBee system. These modules are used in conjunction with the Hive Gateway to create a more comprehensive smart network using all of your existing grow equipment.

The power controls come in the form of a four-outlet smart power strip, allowing for up to four electronic devices to be powered on or off independently from anywhere. There is also a smaller, single-outlet smart plug for individual gear pieces or more remote locations in the growroom. These intelligent outlets allow you to remotely set schedules and thresholds, affording wireless control of humidifiers, fans, heaters and so on. Power-failure detection, active electric-current monitoring and fail-safe features make these outlets even more attractive.

SmartBee will also soon be offering motion detectors, door and window sensors, and video monitoring with text-message alerts and remote wireless feeds from your growroom to your mobile device. Using infrared technology, the motion detectors and entryway sensors ensure that intruders cannot gain access to your growroom unnoticed. These sensors can also be configured to turn on lights or alarms.

Access: Having a networked garden that offers wireless remote control of all atmospheric and environmental conditions may seem futuristic, but the reality is that the future is already here. Bluetooth, satellite and Wi-Fi signals are commonplace in today's world, and this technology has fully infiltrated our growrooms as well. It is time to use it to our full advantage.

account that monitors and controls the modules inside your growroom (or rooms). This data is delivered right to your hands via any mobile or desktop device that can connect to the Internet.

The interface first offers a dashboard giving the average atmospheric conditions for each room. From there, users can toggle through various screen types

Data collection and presentation make a garden's needs easy to understand, removing any guesswork or uncertainty about the growroom's conditions.

Of course, smart growers understand that technology is no substitute for actually being in the garden, seeing the plants with their own eyes. But systems like the SmartBee help to ensure that they can manage their garden if circumstances require their presence elsewhere, and that everything works on schedule—or corrects itself when the schedule needs adjusting. Also, the data collection and presentation make a garden's needs easy to understand, removing any guesswork or uncertainty about the growroom's conditions.

As the Hive Gateway manages the incoming sensor data from your garden, it delivers continuous and secure updates, accessed via an authorized

and formats that offer the data in simple-to-read charts, graphs, or lists for each sensor and control system in use. Lighting, heating, cooling, humidity, dehumidifying, irrigation, CO₂, brightness, moisture and soil conditions are all measured and reported back to the grower. This data can be viewed separately or all together, and it can also be separated into levels for the past hour, past day or past week. On/off controls for each system are at the grower's fingertips, as is the ability to adjust settings.

All told, there's not much that an intelligent remote-control system like this cannot help a grower to do. And, just like that, cannabis cultivation has emerged in a new way in the 21st century. *

THE WORLD'S GREATEST ASHTRAY

ACCEPT NO IMITATIONS!

- 14mm & 18mm bowl storage
- Additional built in storage for lighters, incense, downstems, pokers, ashcatchers, rolling papers, matches & more
- Glass safe & heat resistant

ORDER NOW
TAPDATASHTRAY.COM
#tapdatashtay #acceptnoimitations

Far Out, Man! Cheech & Chong™ Glass Is Here!



ENJOY FREE SHIPPING
WITH CODE "HIGHTIMES"

Visit CheechAndChongGlass.com

Legendary grow guru Jorge Cervantes walks you through the ABCs of the flowering stage.

flowering for pea

By Jorge Cervantes

Pointy sessile resin glands (cystolith hairs) contain no cannabinoids, but the capitate-stalked resin glands with a ball on top are packed with cannabinoids.



Capitate-sessile (bulbous glands) are visible near the center of the leaf of Blueberry x Sandstorm.

Opposite page top: Bulbous glands sit on a base of a few cells located on foliage and flower buds.

kriness

Bulbous Glands

Bulbous glands are the smallest glands on the cannabis plant, ranging in size from 15 to 30 micrometers. One to four cells constitute the "foot" and "stalk" of the gland, and one to four cells make up the "head." Head cells secrete a resin, believed to be cannabinoid-rich, along with related compounds that accumulate between the head cells and the cuticle. A nipple-like bulge may form on the membrane from the pressure of built-up resin as these glands mature. Look for bulbous glands scattered about on foliage surfaces.

Capitate-Sessile Resin Glands

Capitate-sessile resin glands measure from 25 to 100 micrometers across the globular-shaped head or bulb. The bulb appears to lie flush on young and immature plants. One to four cells below the bulb is the beginning of a stalk that elongates and grows during flowering to transform the capitate-sessile gland into a capitate-stalked resin gland. The globular head or ball is composed of eight to 16 cells that form a dome. The specialized cells secrete a cannabinoid-rich resin that collects between the rosette, and its outer membrane appears spherical.



Pests and diseases would have a difficult time attacking this Chocolope bud covered with resin glands.

Capitate-Stalked Resin Glands

Capitate-stalked resin glands, or trichomes, appear and become visible with the naked eye when flowers form. Use a 10x to 30x handheld lens to distinguish between the resin glands—bulbous, capitate-sessile, capitate-stalked and nonglandular trichomes. Look for them on female flower bracts and new flower growth and surrounding foliage, where they form heavily on the plant. The resin glands also tend to accumulate heavily on the veins of lower leaf surfaces around the flower buds. Cannabinoid-potent varieties typically contain higher concentrations of capitate-stalked resin glands.

Male plants and flowers contain smaller and lower concentrations of less-potent stalked glands than are found on the female bracts. Male flowers typically have a row of large capitate-sessile glands along opposite sides of the anthers.

Unless clearly visible on leaf surfaces, few cannabinoids will be found on older leaves. Leaves around the flower buds are much more densely populated with capitate-stalked resin glands rich in cannabinoids.

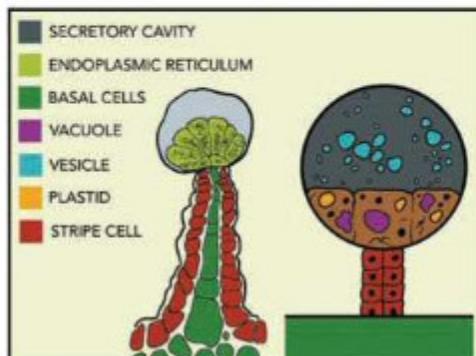
Capitate-stalked resin glands are composed of a stalk with a bulbous head. They look like a post with a knob, ball or bulb at the top. They form mainly on flower buds and small leaves. The highest concentration of cannabinoids is located at the base of the bulbous resin head.

In the illustration below, disc cells are shown attached to foliage by stipe cells (red) and basal cells (green). The plastid (orange) in disc cells secrete lipoplasts where they synthesize lipophilic substances that accumulate and ultimately migrate and form vesicles (blue). THC occurs in the top of the capitate-stalked resin gland. For more on this complex subject, see marijuanagrowing.com.

Cannabinoid Profile

Many cannabinoids besides THC have unique effects on brain functions, which in turn cause various effects on human cognition. Different levels of cannabinoids relative to one another also produce different effects. As a result, measuring the “potency” of cannabis plants is problematic.

A very resinous plant can have low levels of THC and high levels of CBD. Or a plant with little resin can contain high levels of THC and low levels of CBD. The cannabinoid profile depends on the makeup of the cannabinoids and other active ingredients. For example, resin consists of cannabinoids and other



substances, such as non-psychoactive phenolic and terpenoid polymers, glycerides, and triterpenes. When resin is concentrated in kief or hashish, about a third is water-soluble plant material, another third is non-psychoactive resins, and the balance cannabinoids.

In many cannabis plants, THC may be only a very small percentage of the total cannabinoids. The remainder (5 to 10 percent) of the resin will be essential oils, sterols, fatty acids, and various hydrocarbons common to plants.

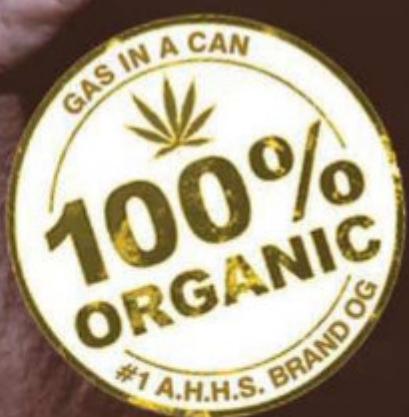
About 80 to 90 percent of the cannabinoids are synthesized and stored in microscopic resin glands that appear on the outer surfaces of all plant parts except the root and seed. The arrangement and number of resin glands vary somewhat with the particular strain examined. Marijuana varieties generally have more resin glands than hemp, and they are larger than the resin glands on non-drug varieties.

Resins occasionally secrete through pores in the membrane of gland heads. Usually secretion occurs many weeks after stalked glands appear. The glands seem to empty their contents, leaving hollow spaces (vacuoles) in the stalk and head cells. After secretion, the glands cease to function and begin to degenerate. Gland heads, stalks and trichomes become clumped together, and the whole flowering surface becomes a sticky mass. This is not necessarily desirable.

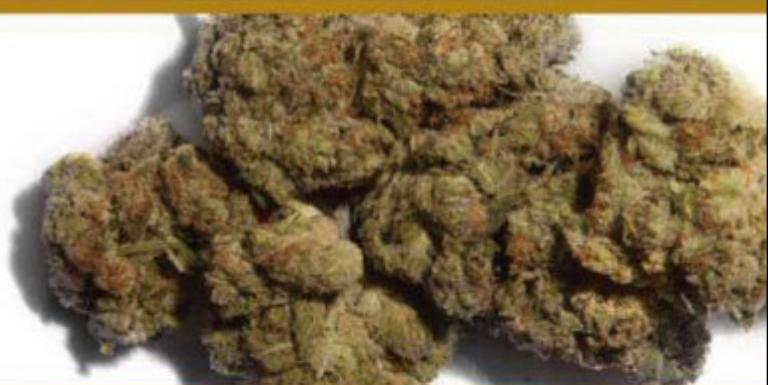
Small quantities of cannabinoids are present in the internal tissues of the

CANS AVAILABLE
NOW

WWW.AHHSWEHO.COM



WAX COMING SOON



ALTERNATIVE HERBAL HEALTH SERVICES | [@AHHSWEHO
7828 SANTA MONICA BLVD., WEST HOLLYWOOD CA 90046. \(323\) 654-8792](https://www.instagram.com/@AHHSWEHO)

[@THEHIGHESTCURE | #AHHSBRANDOG](https://www.instagram.com/@THEHIGHESTCURE)

plant. The bulk is found in small single cells (non-articulated laticifers) that elongate to form small, individual resin canals. The resin canals ramify the developing shoots and penetrate the plant's conducting tissue (phloem). Minute clumps of resin found in the phloem are probably deposited by these resin canals. Other plant cells contain insignificant amounts of cannabinoids; probably a good 90 percent of the plant's cannabinoids are localized in the resin glands.

Florigen

Florigen (also known as "the flowering hormone") is the term used to describe the molecules that initiate and maintain flowering. Since the 1930s, biologists have believed that florigen is responsible for controlling flowering in plants, but it was not until August 2011 that a group of Japanese scientists discovered specific florigen hormone receptors. Florigen is synthesized in leaves and stimulated by environmental changes such as photoperiod and temperature.

Florigen is found at the apex of shoots where buds grow to induce flowering. It directs vegetative stem apices to become flowering stem apices. The subject is quite complex and beyond the scope of this book. I started a thread about florigen on the forum at *marijuanagrowing.com* that encompasses further research and discussion.

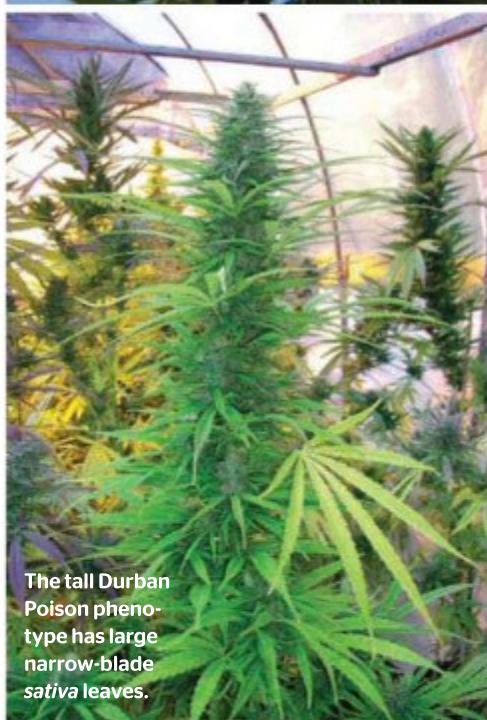
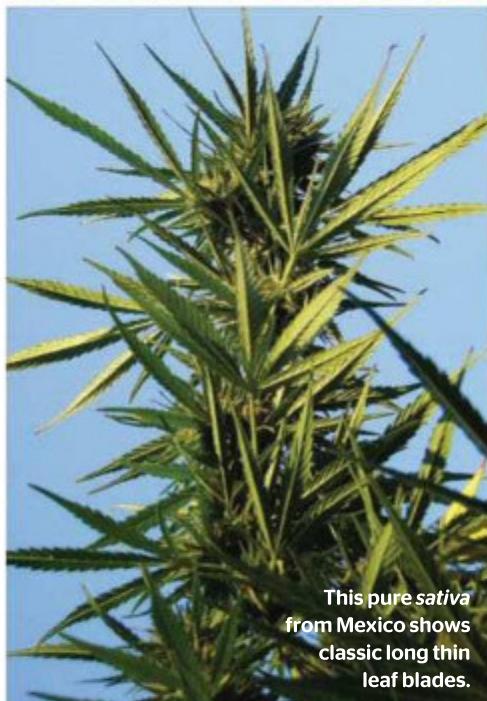
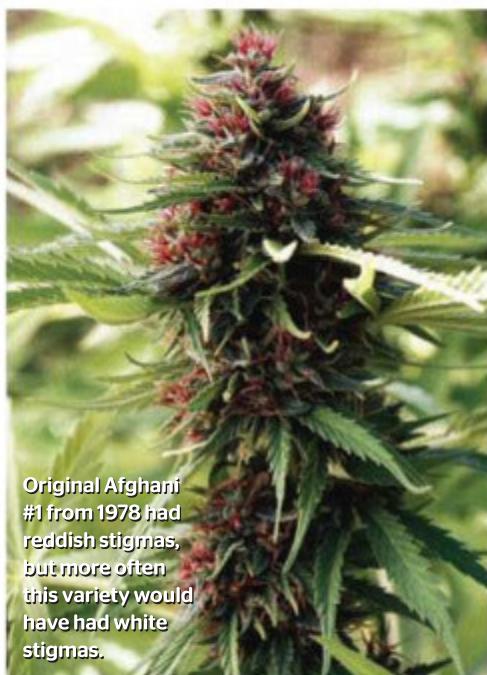
Indica, Sativa and Ruderalis

Induce *sativa* and *indica* varieties and crosses to flower in greenhouses and indoors by giving plants more hours of total darkness and fewer hours of light.

Outdoors, cannabis will flower when it receives 12 hours or more of darkness daily. Give cannabis 12 hours of uninterrupted darkness and 12 hours of light to induce visible signs of flowering in about two weeks. This program is effective in all but the latest-blooming pure-*sativa* varieties.

Medicinal cannabis gardeners with a vegetative room illuminated 18 to 24 hours a day and a flowering room or greenhouse with 12-hour days and 12-hour nights create environments that mimic the photoperiod in spring and fall. With this simple combination, a crop can be harvested every six to 10 weeks. In warm southern climates or with the help of artificial light, the harvest can last all year.

Plants show sex (male or female flowers) during the pre-flowering stage, which actually occurs during late vegetative growth. Once the sex of the plant is established, males—unless used for



breeding—are harvested before they shed pollen, and females are coaxed into higher yields. Once the photoperiod is set, disrupting it can cause plants to suffer stress. If they suffer enough stress, intersex (hermaphrodite) tendencies increase. The water intake of flowering plants is usually somewhat less than it is during the vegetative stage. Adequate water during the flowering stage is important for plants to carry on their internal chemistry and cannabinoid production. Withholding water to "stress" a plant will actually stunt growth and diminish yields.

Pure *Cannabis sativa* has its origins in tropical regions. Tropical varieties are accustomed to 12 hours of sunlight and an equal period of darkness all year round. The climate is such that they have a long and temperate growing season that allows leisurely and consistent growth. Super-intense sunlight can be difficult for them to assimilate, since many tropical *sativa* varieties grow under the shade of a jungle canopy.

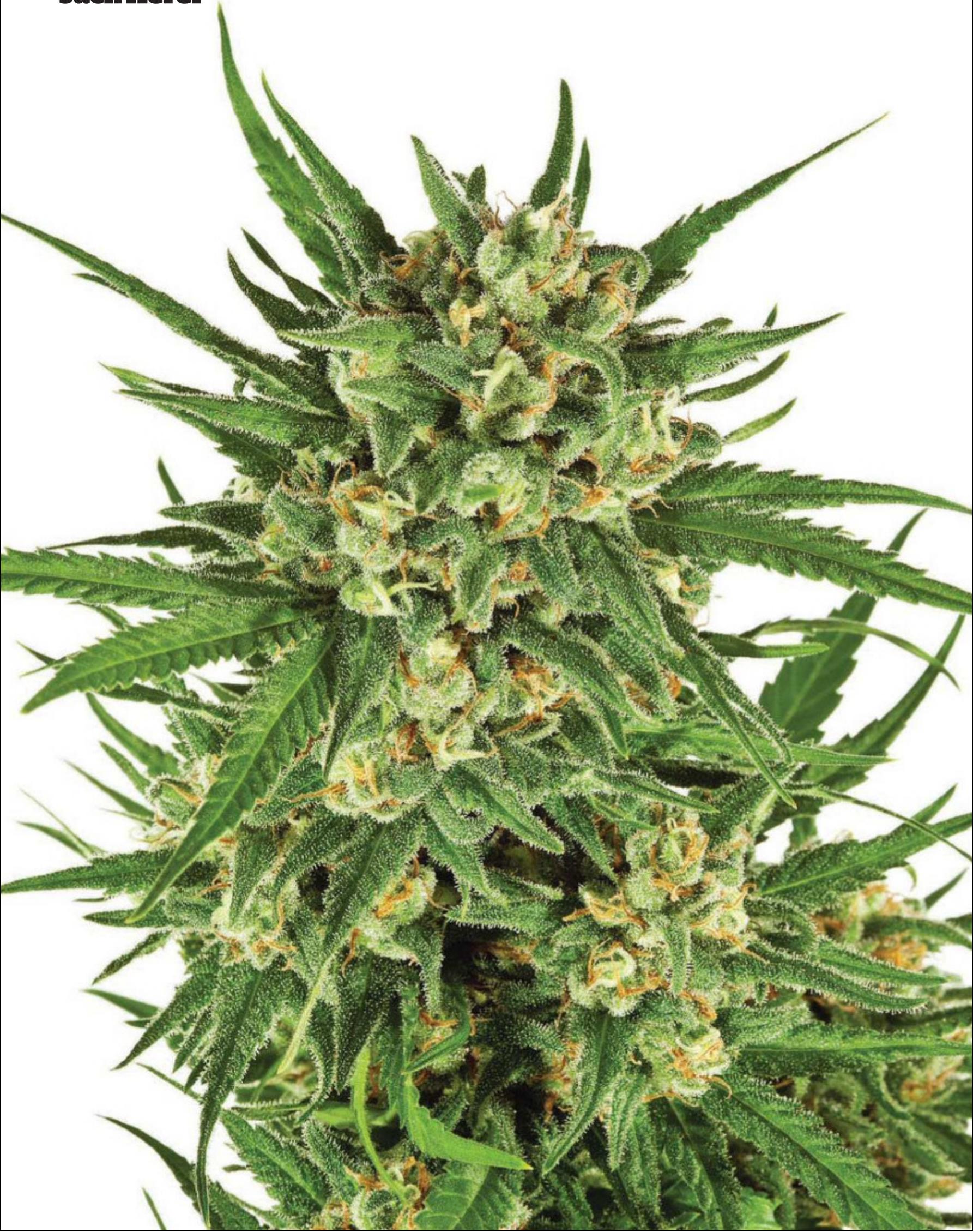
Indoors, gardeners often give pure tropical *sativas* too much light. The result is even smaller and lower-yielding flower buds. Lamps should be set further away or outfitted with lower-wattage bulbs that produce less intensity and heat. This will ensure that *sativa* plants won't get as hot, while receiving adequate light to grow big flower buds. Give pure tropical *sativas* more darkness and less light to induce flowering—13 or 12 hours of darkness and 11 or 12 hours of light. Some gardeners go so far as to gradually decrease the light to 10 hours daily, with 14 or more hours of darkness. Such practices simulate native climates, which gives plants a chance to express their genetics. This technique will promote bigger flower buds.

Auto-flowering *Cannabis ruderalis* varieties do not require long nights to flower. *C. ruderalis* starts to flower within a month of germinating. Many auto-flowering *ruderalis* varieties are ready to harvest 70 days after planting and produce up to 4 ounces (113.4 grams) of dried medicinal flower buds when properly grown. European breeders have feminized many auto-flowering varieties. To date, the top varieties produce 3 to 3.5 ounces (85 to 99.2 grams) in 70 to 80 days.

Nonglandular Trichomes

Nonglandular or cystolithic trichomes, also known as plant hairs, are common on many plants and do not produce cannabinoids. These trichomes have a pointed tip and are often long and hair-like. The waxy, protective trichomes

Jack Herer



HIGH TIMES
**ULTRA
HAZE**





Ultra Sonja



GROW BETTER.TM

PATENTED TECHNOLOGY TO STIMULATE ROOT COLONIZATION

ROOTTM

BENEFICIAL MICROBES

ROOT PROMOTER AND PLANT HEALTH BOOSTER
IMPROVES SOIL FERTILITY AND PLANT NUTRITION



SHelf LIFE OF
2
YEARS

RX GREEN
SOLUTIONS
NET WEIGHT 1.5oz (42.5g)

NET WEIGHT 1.5oz (42.5g)

RX GREEN
SOLUTIONS

ROOT is a fully soluble biological inoculant and soil amendment to promote beneficial bacterial colonization at the roots. Containing **eight different beneficial microbes**, these natural bacteria convert nitrogen and phosphorus to simpler forms, which improves nutrient uptake by the plant. **ROOT** also contains **Myconate (formononetin)**, a technology proven to stimulate colonization of beneficial root organisms.



www.grow-better.com | info@rxgreensolutions.com | 603.769.3450

COMING SEPT 2015
NEW

✓ **HIGH CONCENTRATION**
Highly concentrated bacteria (250M cfu/g)

✓ **READY TO USE**
Foams instantly, no brewing needed

✓ **PATENTED TECHNOLOGY**
Technology to stimulate colonization
of beneficial root organisms

4 NEW SIZES!



1.5oz, 4oz, 1lb and 5lb

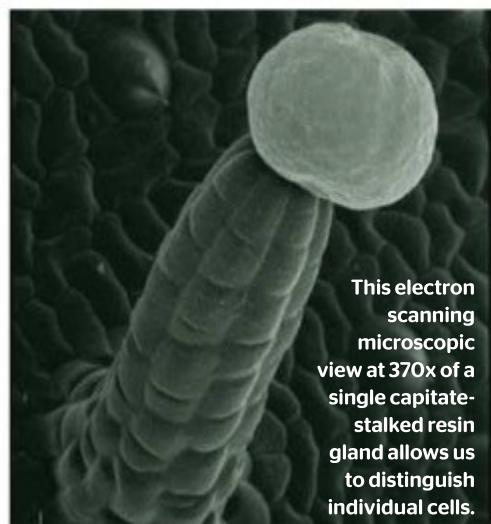
are most common on leaf undersides, petioles and stems.

More common on some varieties than others, cystolithic trichomes are most abundant on outdoor plants. More cystolithic trichomes form on plants when they harden off and are moved from indoors to outdoors. The glands exude insecticidal and miticidal substances to gum up pests' mouthparts and repel them, but they have no useful cannabinoids.

Terpenes and Essential Oils

Five essential oils—the terpenes (mono- and sesquiterpenes), pinenes (alpha- and beta-), limonene, mycene and beta-phallandrene—impart virtually all of the specific aroma, flavor and character (sweet, minty, citrusy, etc.) found in odorless cannabinoids. The volatile oils enter the atmosphere and dissipate over time. This causes cannabis to lose much of its bouquet and flavor when stored.

Essential oils constitute 0.1% to 0.3% of the dry weight of a fresh marijuana sample—about 10% of the weight of the cannabinoids. For every 1,000 grams of dry bud, from 1 to 3 grams of essential oil is extracted. Essential oils are predominately found inside the heads of resin glands, and they have been



detected in the resin canals or laticifers.

The mix of essential oils is diverse in different samples of cannabis. Some scientists hypothesize that cannabis content and fragrance may be associated because essential oils are precursors or are related to the cannabinoids.

Trichomes

As cannabis author, researcher and photographer Mel Frank has noted: "All mice are animals, but not all animals are mice. Similarly, all resin glands are trichomes, but not all trichomes are resin glands. Trichome is a general botanical

term for any outgrowth of an epidermal cell. Trichomes can be scales, root hairs, glandular or nonglandular, single or multicellular, often hairlike growths. Cannabis has three kinds of resin glands (bulbous, capitate-sessile, and capitate-stalked) and several of non-resinous silica and carbonate warts and hairs, all called trichomes."

Biologists hypothesize that trichomes evolved as a defense mechanism of the cannabis plant against a range of potential enemies. These adhesive sprouts form a protective layer against offensive insects and mites, preventing them from reaching the surface of the plant. The chemicals in trichomes make cannabis less palatable to animals and can inhibit the growth of some types of fungus. The protective trichomes also help insulate plants from desiccating wind and low humidity as well as forming a natural "sunscreen" to protect against UVB light rays. Humans may have promoted heavier resin production through casual selective breeding. *

Adapted from *The Cannabis Encyclopedia* by Jorge Cervantes, \$50 softcover, \$70 hardcover. Find it at Amazon.com or by visiting Jorge's website, MarijuanaGrowing.com.



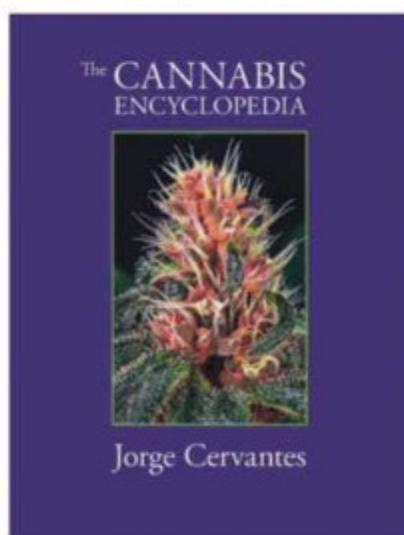
CANNABIS ENCYCLOPEDIA



THE DEFINITIVE GUIDE TO CULTIVATION & CONSUMPTION OF MEDICAL MARIJUANA

596 PAGES
8.5 X 11-INCH FORMAT
2,000+
COLOR IMAGES!

SOFTCOVER \$50
HARDCOVER \$70



ALSO AVAILABLE



Marijuana Grow Basics
The EASY Guide for Cannabis Aficionados by Jorge Cervantes
\$21.95



More than 1,000,000 sold!
The Indoor/Outdoor MEDICAL Grower's Bible
by Jorge Cervantes
\$29.95
Spanish edition \$39.95

Retail Orders

www.amazon.com
www.amazon.ca
www.amazon.co.uk
www.amazon.com.au
www.amazon.de
www.amazon.es
www.amazon.it
www.amazon.in
www.amazon.jp
www.amazon.mx
www.amazon.br

Wholesale Only

www.marijuanagrowing.com
Go to "Contact Us"

The Cannabis Encyclopedia covers the following and much more!

Medicinal Cannabis, Measuring Cannabinoids, Medical Varieties, Cultivation – Seeds, Clones, Indoor, Outdoor, Greenhouse, Case Studies, Meters, Air, Light and Electricity, Hydroponics, Organics, Soil, Water, Containers, Nutrients, Additives, Diseases and Pests, and Breeding – Medicinal Concentrates and Cooking with Medicinal Cannabis.

www.marijuanagrowing.com



jorgecervantesmj



JorgeCervantes



JoCerv



jorgecervantesmj

ATTENTION GROWERS: THE BUD-GETTING BENEFITS YOU CAN'T BUY!

When you choose any of Advanced Nutrients' pH Perfect® Base Nutrients, you will also receive **5 Benefits in 1** that are included in every bottle at no additional cost... Other companies might charge hundreds of dollars for the same benefits these products bring you, but they're all included as part of the standard formulations in each of our cup-winning, plant-specific base nutrients. They are...

1. Wet Betty

Wet Betty is a non-ionic surfactant (also called a wetting agent) that lowers the surface tension of your nutrient-rich water, allowing easier spreading and uptake of nutrients into your plants. That means your plants get the nutrients they crave faster and more efficiently than ever before.

Plus, scientific testing by the leading plant PhD in surfactant studies shows **Wet Betty** (by itself) consistently increases plant growth by an average of 6%!

2. F1

Short-chain **Fulvic Acid** is still not 100% understood scientifically, but it directly stimulates plant growth and is 1,000 times smaller than humic acid—making it easily utilized by your plants. Fulvic Acid is also a natural chelator that gives you quicker nutrient absorption, transport, and enhanced cellular metabolism.

3. H2

Introducing long-chain **Humic Acid** to your root zone is like building a "condominium complex" for beneficial bacteria and fungi, giving them an optimal structure to flourish in.



4. Amino Acids

Many athletes supplement with **amino acids** to help fuel muscle growth because they're the essential "building blocks" of protein. In the same way, your plants benefit from amino acids! The broad spectrum of 20 amino acids in Advanced Nutrients base nutrients fuel metabolic pathways for enhanced essential-oil production and are critical to the construction of cell walls in stems, leaves, and flowers.

5. Balance-Free pH Perfect® Technology

When you use any Advanced Nutrients base nutrient, the pH Perfect® Technology inside automatically stabilizes and locks in your pH within the optimal range (called the "sweet spot") of pH 5.5–6.3—and keeps it there for one week. No more pens. No more meters. No more being chained to your nutrient reservoir, checking and adjusting pH, because the scientific formulation does it for you. Plus, with a theoretical absorption range between pH 1 and pH 10—this technology acts as a built-in safety net ensuring your plants can always feed and even if some error or bad water source takes the pH above or below where it should be, you'll still be able to turn a good crop.



**AGAIN YOU CAN'T BUY THESE 5 BENEFITS IN 1—THEY'RE OUR
GIFT TO GROWERS EVERYWHERE AND INCLUDED AT NO COST IN EVERY
BOTTLE OF ADVANCED NUTRIENTS pH PERFECT® BASE NUTRIENTS!**

To Find Out More Go Now To: AdvancedNutrients.com/5in1



Ask your local hydroponic retailer about what pH Perfect® Base Nutrients can do for your garden today!



Advanced Nutrients
Raising the Bud Weights... and Reputations... of Top Growers



the

POWER OF THREE

quality. strength. reliability.



FROM THE ONES WHO BROUGHT YOU
THE WORLD'S PUREST BUTANE...

NEW!

ion torch

Heavy Duty. Higher Flame. Durable.



neo torch

Versatile. Adjustable. Simple Push.



**QUALITY,
STRENGTH,
& RELIABILITY
with every light.**

rio torch

Lightweight. Double Jet. Sleek.



FILL WITH THE
*world's
purest
butane*



PLACE YOUR ORDER NOW!

800 500 0583

sales@unitedbrands.us

www.unitedbrands.us

*whip-it!

BUY 1 GET 1 FREE!

WHAT'S
BETTER
THAN THE
PUREST?
MORE OF IT.

WORLD'S PUREST BUTANE



CONTACT YOUR NEAREST
RETAILER FOR MORE INFO

whip-it![®]
NORTH SEA
PREMIUM BUTANE MADE IN UK

800 500 0583
info@unitedbrands.us
www.unitedbrands.us

Good Vape Vibes



When a consumer need is identified, entrepreneurs are always ready to strike. Like the guys behind OpenVAPE, who saw a demand for high-quality cannabis oil and vapor pens and jumped in to fill it—quite literally!

Story & photos by Dan Skye

Legalization has enabled new talent and fresh business perspectives to enter the cannabis industry. It's not too hard to understand why: When the threat of having your life upended for cultivating a plant—much less smoking it—no longer exists, creativity blossoms. New business models are created, new products emerge, and new networks of commerce evolve to sell them.

In 2000, Colorado voters passed Amendment 20, which made access to medical marijuana part of the state's constitution. But for nine years, the fledgling medical marijuana industry languished, because the Colorado Department of Public Health and Environment barred

individual caregivers from providing medicine to more than five patients. Then, in 2009, the state Board of Health overturned that five-patient limit, and the cannabis industry found its footing. Dispensaries opened across the state, and the Colorado "Green Rush" was born.

Tim Cullen was a high-school biology teacher and botany expert who had been legally growing cannabis since 2000 in order to treat his Crohn's disease. Another budding ganjapreneuer, Ralph Morgan, worked with his wife in the health-care industry. Both men decided to jump into the fray.

Tim founded the Colorado Harvest Company, while Ralph opened Evergreen Apothecary, both in Denver. Tim



recalls: "In 2009, there was no Marijuana Enforcement Division [MED], no Denver licensing and no state licensing. Stores weren't collecting or returning sales tax. There was really no oversight, because things had happened so quickly. It wasn't until the middle of 2010 that the MED formed and Colorado passed the bill that laid the groundwork for the rules we still play by today—how cannabis is transported, the badging of employees, the collection of taxes.

Tim Cullen (above) oversees the grow ops and five retail locations that make up Colorado Harvest Company and Evergreen Apothecary.



Freshly harvested buds are ready for consumers.

"We were looking for a healthy alternative to smoking, an organic extraction method that we could recommend."

Ralph Morgan directs Organa Labs operations.

Organa Labs exports its extraction technology to legal states.

"Ralph and I met each other and decided that we'd survive the new regulations better if we were a little bit bigger," Tim continues. "We were like puzzle pieces that fit together: Evergreen Apothecary is a really busy retail location on South Broadway, but it had a really undersized grow; Colorado Harvest Company had a pretty large grow at that point in time, but the dispensary was off the beaten path. We thought that the big grow could supply the busy store, and we'd figure the rest out later. So we threw all of our chips on the table, divvied it up 50/50 and became partners."

Organa Labs was part of the partnership. Ralph and his wife had started Organa in 2010 after recognizing the demand for organically extracted oils with medicinal applications. "We've been doing this for a while," Ralph says. "We

were one of the first licensed extraction companies in the US working with CO₂."

This was important because carbon dioxide renders any residual solvents from the process relatively harmless, while killing all of the bacteria, viruses and molds that may have been present in the product.

"I think there are several wonderful companies that use hydrocarbon extraction," Ralph adds, referring to another popular method for producing cannabis extracts, "but in 2010, that wasn't the case. CO₂ extraction was something that the food and flavor industry had popularized as an organic extraction method for the essential oils of plants. That's what attracted us—especially back then, because the industry was all medical. We

Advanced Grow Labs of West Haven, CT produces extraction on-site.

were looking for a healthy alternative to smoking, an organic extraction method that we could recommend."

Tim remembers early troubles with the market. "At the point of sale," he says, "a hydrocarbon-extracted oil, wax or shatter looks almost exactly the same as a CO₂-extracted oil, wax or shatter. The difference is that one might cost \$60 a gram, and the other one is \$25 dollars a gram. So we were getting beat up in the market; consumers weren't educated as to the difference between the two products. Organa Labs hovered for a long time, sort of breaking even, bleeding a little bit. But our dispensaries kept the lab alive."

WEED BE GOOD TOGETHER

Looking for that same “perfect puff” but with a little more flair?

The O.penVAPE pen now comes in five vibrant colors so you can party on in style.



ALL O.PENVAPE PRODUCTS INFUSED
WITH ORGANALABS CERTIFIED OIL

FOR MORE INFORMATION VISIT OPENVAPE.COM OR FOLLOW US ON FACEBOOK, TWITTER, AND INSTAGRAM
RETAILERS...INTERESTED IN CARRYING O.PENVAPE PRODUCTS? CONTACT US AT ORDERS@OPENVAPE.COM

openVAPE
IT'S WHAT'S INSIDE THAT COUNTS



A FRIEND FOR LIFE
ALL O.PENVAPE PRODUCTS COME
WITH A LIFETIME BATTERY WARRANTY



Fresh, strain-specific cartridges will refresh your empty pen.

Among its first products was CanaTab, a 10-milligram sublingual tablet—not a very strong dose, but perfect for patients who needed a dependable, relatively small amount of cannabis medicine. Organa had also launched several different vaporizer pens by this point, but it was having trouble getting anything to stick in the marketplace.

The fourth pen that Organa Labs marketed was its breakthrough product. The development of technology that allowed

a pen to vaporize cannabis oil, combined with Organa's decision to market strain-specific extracts, led to the creation of O.penVAPE.

Several cannabis entrepreneurs, including the owners of the successful La Conte's retail outlets and Bakked, a respected competitor to OrganaLabs, formed the new entity called O.penVAPE, pooling talent and resources in order to offer the market a product that they all believed in.

"It was an opportunity to be a part of something that was much greater than our sums" said Ralph Morgan, now O.penVAPE's CEO.

It may be the highest of hyperbole but Chris McElvany, O.penVAPE's CTO says that their company's success has been described as the "Google of cannabis."

"We're often asked how we've grown to be arguably the largest brand in this space," he says. "It's achieved by our philosophy of partnership. Our collective wisdom always prevails."

"We may not always agree, but we disagree well," adds Jeremy Heidl, the COO at O.penVAPE.

In creating the pens, the partners looked toward successful innovations from other industries. "We used the playbook from the Gillette Razor model," Tim acknowledges. "We were the first to launch strain-specific cartridges. Gillette gives the actual device away for free and sells you the blades. That's what we started doing."

However, the two partners were leery of getting caught up in a situation where the device became their actual commodity. "We wanted to sell cannabis oil, not pens," Tim explains. "That's why it was really easy for us to give the pen

TESTNEGATIVE.com
Guaranteed Quick & Easy solutions!

Incognito Belt™
GO UNNOTICED - UNDETECTED!

- 100% Effective
- Works for All Tests
- Totally Undetectable
- Highest Quality Toxin Free Synthetic Urine
- No Mixing Required
- Ideal Heat Source - Heat Pads included
- Unisex - Male or Female Use
- 200% Double Your Money Back Guarantee

\$125 ea Buy 3 get 1 Free

NOW AVAILABLE
Presenting the NEW Oral Clear™ GUM.

OralClear
The world's first Saliva Neutralizing Gum. The BEST Saliva solution available.

- Works on all toxins including Nicotine!
- No abstinence period is required prior to using this product.
- Effective in just 30 seconds and effect will last 30 minutes
- 200% Double Your Money Back Guarantee

\$90 ea Buy 3 get 1 Free

SPIKE™ ADDITIVE

- World's Smallest, Most Potent, Undetectable Urine Purifier ever Created!
- The Solution for Random EMIT Test or Test Panel Testing
- Formulated to Destroy ALL Toxins on Contact
- Simple to Use - Just Pour into Sample
- 1.5ML Micro Vial - Ultra Small & Easy to Conceal
- Good for Up to Two Tests
- 200% DOUBLE Your Money Back Guarantee

\$125 ea Buy 3 get 1 Free

HFS™ HAIR FOLLICLE SHAMPOO

- Simple Two Step Process
- Removes All Toxins within Minutes
- Clear Zone for Up to 8 hours
- For Any Hair Length
- Safe for the Hair and Scalp
- 200% DOUBLE Your Money Back Guarantee

\$75 ea Buy 3 get 1 Free

Online Ordering
TestNegative.com

Call Toll-Free - 24hr Ordering Hotline
1.866.900.5656
1.877.420.7277

ups RUSH! - Next Day Delivery Available

CHECK LOCAL, STATE AND FEDERAL LAWS BEFORE ORDERING

HIGH TIMES READERS
get \$5 OFF
(use coupon code: 5off)

FREE PRIORITY SHIPPING
on all web orders over \$135

Strictly Confidential/ Discreet Shipping

MasterCard **VISA** **AMERICAN EXPRESS** **PayPal**
All major credit cards accepted

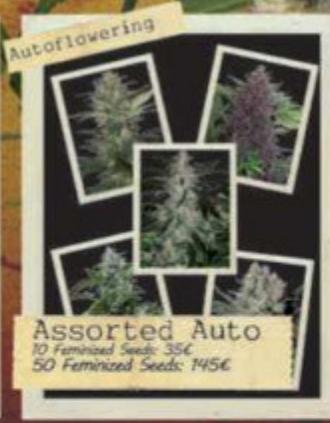
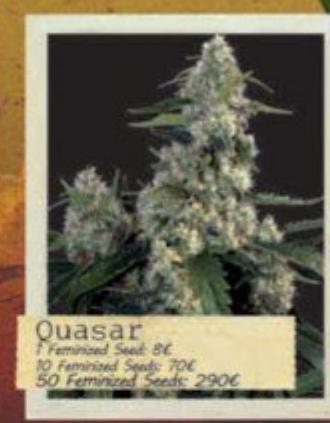
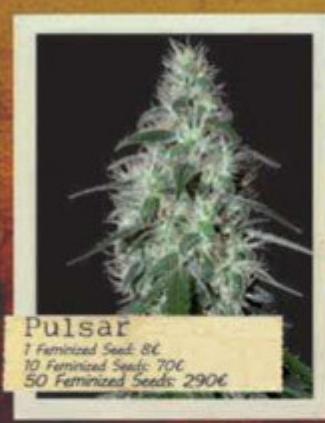
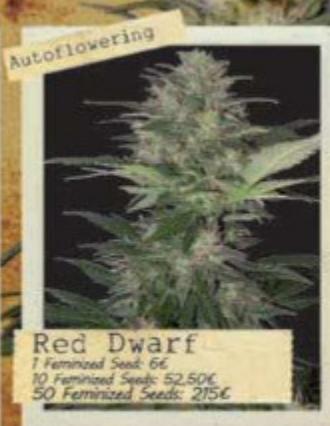
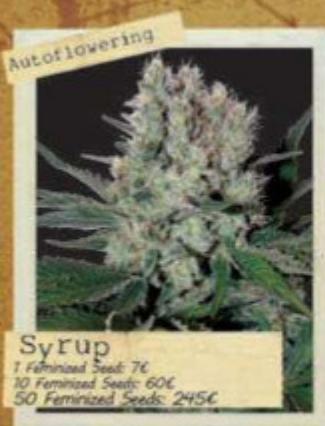
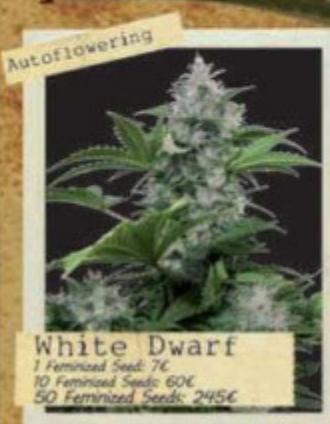
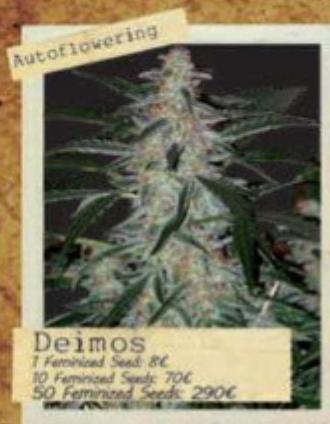
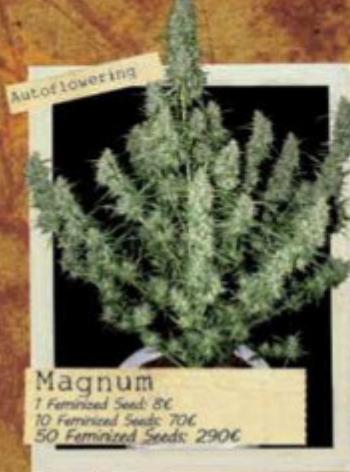


Buddha
seeds

KRAKEN

Superindica
Monstrous in all its aspects
It is not a myth
It is Real

1 Feminized Seed 8,00€
10 Feminized Seeds 70,00€
50 Feminized Seeds 290,00€



AND NOW REGULAR TOO...

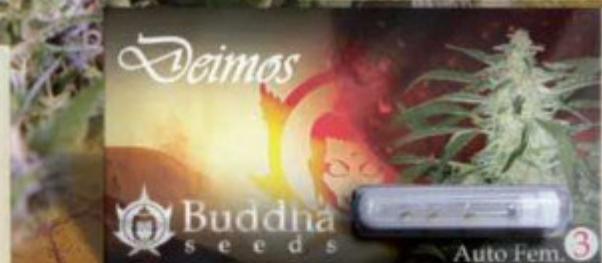
Deimos:
1 seed x 3,50€ - 10 seeds x 35€ - 50 seeds x 175€

Magnum:
1 seed x 3,50€ - 10 seeds x 35€ - 50 seeds x 175€

Syrup:
1 seed x 3,50€ - 10 seeds x 30€ - 50 seeds x 122,50€

Red-Dwarf:
1 seed x 3€ - 10 seeds x 28,50€ - 50 seeds x 107,50€

White Dwarf:
1 seed x 3€ - 10 seeds x 30€ - 50 seeds x 122,50€



COMING SOON
ALL OUR VARIETIES
WITH NEW PACKAGING
3 SEEDS



www.buddhaseedbank.com - www.buddhaseedblog.com

ACQUISITION OF LIVE CANNABIS SEEDS IS ILLEGAL IN THE UNITED STATES - PAYABLE IN US DOLLARS FROM ANYWHERE IN THE WORLD

 Buddha
seeds

away for free. We're not marketing the pen; we're trying to market the oil that's inside of it. Organa Labs makes the oil inside the pen. That's marketed under the O.penVAPE name. But it's the stamp of Organa Labs that consumers care about: It means that the oil is strain-specific and CO₂-extracted."

The pens were an immediate hit in Colorado. Dispensaries in other states began to inquire about licensing the brand. Over the past two years, Organa Labs and O.penVAPE have expanded into nine different states. Because current laws prohibit the transportation of cannabis across state lines, the company rebuilds its lab in each individual state, then sources the raw materials there and markets its finished products within the state as well.

Ralph and Tim divide the business responsibilities between them. Tim oversees the five retail locations that make up the Colorado Harvest Company and Evergreen Apothecary, as well as the three gardens that supply them. (O.penVAPE uses trim from the gardens for oil production.)

Ralph is often on the move as Organa Labs and O.penVAPE expand, most recently checking in with Advanced



"Organa Labs and O.penVAPE are poised to become one of the first national cannabis brands to emerge."

Grow Labs of West Haven, Connecticut, as it recreates the Organa Labs model. "Every deal is different," he says. "Each is based on local laws. What we look for, first, is a good cultural fit—good operators, good people. Secondly, how do we finance this? We may participate, we may help in a large way—or we may find a scenario where people have the funds but need our expertise."

Currently, Organa Labs has bricks-and-mortar operations set up in eight states. Other labs are in various stages of completion, usually awaiting local municipalities to catch up with the laws themselves.

Ralph explains the advantages: "If you have a passion for making chicken, you could do it yourself and find your own secret spices. Or you could get a franchise, like KFC, and benefit from two things: proven processes and brand recognition—assuming it's favorable. That's what our licensees enjoy as well: not only the processes, which we're forever improving upon, but the reputational benefits from carrying a known brand in their stores."

"We don't enjoy the mass distribution that Coors or Budweiser gets by having, say, one plant in the Midwest that distributes all over," Tim adds. "We have to create our production lines everywhere we go. But I think Organa Labs and O.penVAPE are poised to become one of the first national cannabis brands to emerge. There hasn't been one yet, but we aim to be a large player on the national scene." *

Visit openvape.com, coloradoharvestcompany.com or evergreenapothecary.com.

#1 REQUESTED

BOLD BLACK OUT LIGHT DEP COVERS

HIGH QUALITY TEAR RESISTANT

8 mil String Reinforced Black/White Poly

- Lasts Multiple Seasons
- Made in the U.S.A
- Supplies Complete Darkness
- Tear Resistant

We Carry Liners & Covers
For All Your Growing Needs

GET MORE BUSHELS FOR YOUR BUCK!

Photo Courtesy of Emerald Kingdom

Use Coupon Code HTO10 for 10% off your October retail purchase

Americover®
800-747-6095 • 760-747-6095
www.americover.com

GIRL SCOUT COOKIES

From Dr. Greenthumb

ACQUISITION OF LIVE CANNABIS SEEDS IS ILLEGAL IN THE UNITED STATES
PAYABLE IN US DOLLARS FROM ANYWHERE IN THE WORLD.

Customer grown
& photographed
by Turbine2

ORDERING INFO LINE

1.613.330.2404

For a catalog including a \$10 off coupon send \$5 to:

"RWJ GENTECH INC." Box 37085
Ottawa, ONTARIO, K1V 0W9 CANADA

www.drgreenthumb.com

ROOT MASS
EXPANDERS
TRIBE



EXPAND YOUR ROOT MASS 700% TO 1,000%! IT IS A KNOWN SCIENTIFIC FACT: BIGGER ROOTS PRODUCE BIGGER YIELDS

Voodoo Juice—Expand root mass by up to 117% and increase nutrient absorption by up to 700%. Watch your plants suck up energy and nutrients like crazy for vigorous growth—and ultimately bigger yields.

Piranha—Expand the surface area of your plant roots by up to 75%. Help your crops obtain as much as 86% more nitrogen, 234% more phosphorus, and 75% more potassium. This means heightened grow, greater leaf area, more bud production, better bloom structure, and increased weight. Piranha Liquid also seeks and destroys harmful pathogens and molds, while strengthening crop resistance to stress.

Tarantula—Its beneficial bacteria inoculate the roots, safeguarding them by competing with and warding off harmful bacteria that can infect your plants. Reduces tissue damage from heavy fertilizer salts. Increases plant growth and yields by releasing grow and bloom cofactors and aiding chlorophyll, so your high-intensity lighting is more effective.

Microbial Munch—Maximize your microbes! Support, strengthen and maximize the benefits from all the beneficial microbes and fungi. It's a "superfood"—exactly what your plants need to transform into bigger, stronger, more resilient, and more beneficial creatures. In short, it's like putting them on steroids.

BUD AID
TRIBE



"INSURANCE" FOR YOUR GROW ROOM

Sensi Cal-Mag Xtra—If you're using base nutrients made by other companies, your crops could be deficient, leading to stunted growth and yellowing leaves. You can prevent that with Sensi Cal-Mag Xtra, the only calcium and magnesium supplement formulated with the exact Ca, Mg, and Fe ratios unique to the high-value plants we grow.

Revive—Guaranteed to rejuvenate your crops if they get into nutrient-deficiency trouble—which can happen if something unexpected and beyond your control occurs...or you're using inferior nutrients. Save plants in distress by adding it to your nutrient solution or using it as a foliar spray at the first sign of trouble. These rejuvenating substances flood the plant with healing nutrition. Use it at the first sign of trouble and your precious plants will get their best chance not only to survive, but thrive!

BUD POTENCY
& STALK
STRENGTHENERS
TRIBE

GROW MORE GLISTENING, STICKY, RESIN-GLAZED, TRICHOME-COVERED BUDS AND STURDIER, STRONGER STALKS AND BRANCHES!

Nirvana—Guarantees bigger yields and bigger, denser, heavier buds... while driving your plants at a faster metabolic rate. Experience increased yield, quality, aroma, color, essential oils, and resin production faster than you could have imagined without using synthetic nutrients.

Rhino Skin—Increases trichomes and essential oils for more potent harvests. Your crops will stand up straighter and support bulkier, heavier buds. You'll get big, sticky, potent harvests with greater market value.

Bud Factor X—Triggers systemic acquired resistance (SAR) within plants to produce markedly higher amounts of essential oils and terpenoids which directly benefit taste, aroma, and resin production giving you higher-quality crops with greater market value.

B-52—Amplifies overall plant metabolism, promotes strong root development, boosts growth and helps your crops fight off stresses such as intense light, cold weather, ozone, drought, and salinity.

CROP
SUBSTRATE
SUPERCHARGERS
TRIBE

THE MOST OVERLOOKED AREA FOR GETTING POUNDS OF BUDS

Sensizym—Specifically formulated enzymes that scour the root zone, removing debris and eradicating disease by "recycling" it into usable carbohydrates that fuel bud growth and boost yields. Growers report it also decomposes root zone debris so well, you can often reuse growing media such as rockwool and coco coir for another crop lifecycle—saving you money!

Ancient Earth Organic—A rich combination of humic and fulvic acid that will help transform your growing medium into a richer, healthier, more vibrant foundation for your crops while pumping up their roots. Also stabilize the pH and optimize nutrient delivery. Helps plants withstand disease, drought, and other environmental stresses.



Ask your local hydroponic retailer
about what Advanced Nutrients
can do for your garden today!

WELCOME TO THE TRIBE!

ANY ONE OF ADVANCED NUTRIENTS' CANNABIS ENHANCERS WILL PACK SIZE, DENSITY, AND WEIGHT ON YOUR BUDS AND HELP YOU ACHIEVE THE YIELDS YOU'VE ALWAYS IMAGINED. AND WHEN USED TOGETHER, WILL GREATLY ENHANCE EACH OTHER'S EFFECTIVENESS.



BIGGER BUDS TRIBE

OPTIMIZES YOUR 3 CRITICAL PHASES OF BUD DEVELOPMENT!

Bud Initiation Phase

Bud Ignitor—All the energy your high-value crops had been putting into grow will transfer into a massive burst of blooms. You'll start to see signs of prolific budding within 5 days, instead of 10 or more without it.

Mid-Blooming Phase

Big Bud—In the same way bodybuilders take in amino acids after a workout to bulk up on proteins—the building blocks of life—so too do your buds need a big amino boost. See gains in size, mass, and potency from the rich assortment of bioavailable amino acids.

Ripening Phase

Overdrive—Get even more out of your plants during the finishing phase. Reinvigorate your crops with a second wind, giving you much bigger yields when harvest day dawns.

Start Putting the Tribes to Work For You Today...
Go Now to AdvancedNutrients.com/Tribes

 **Advanced Nutrients**
Raising the Bud Weights... and Reputations... of Top Growers

THE "SECRET" TO MAXIMIZING TASTE, INTENSIFYING FLAVOR, AND AMPLIFYING THE AROMA OF YOUR CROPS

Bud Candy—The simple and complex carbohydrates in Bud Candy give them an instantly accessible source of energy for more floral growth. Includes bloom-enhancing plant extracts that increase essential oils for higher potency, better aroma, richer flavor and deeper, more pleasing colors.

Flawless Finish—Removes excess chemical residues from your growing medium, roots and other plant tissues, including fruits and flowers. You'll have the cleanest, sweetest yields possible. Use Flawless Finish right before your next harvest and taste the results for yourself.

Safer®
BRAND

Plants prefer organics.



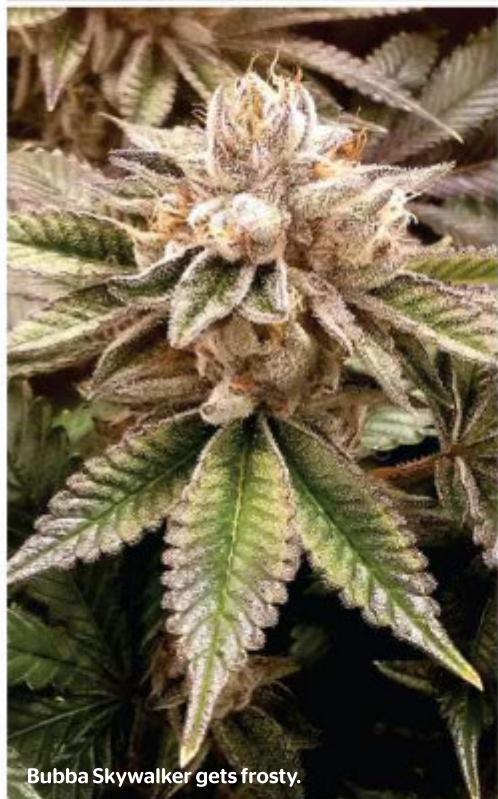
Organic Gardening Products by Safer® Brand

OMRI® Listed insecticides, fungicides and herbicides.



www.saferbrand.com

A Phoenix Grow Rises



The legendary author of the *Marijuana Grower's Guide* visits a legal marijuana facility in Arizona and reveals what it takes to grow huge amounts of pot indoors in a desert climate. *Story & Photos by Mel Frank*

Arizona Getaway

I recently visited a new legal commercial grow in Phoenix, Arizona, where the recipients of the state's cannabusiness licenses are selected by lottery. In early 2012, these particular lucky winners received three licenses, with which they formed the Herbal Wellness Center, Inc. Two of their dispensaries will be located in Chandler and the third is open in Phoenix, near the grow shown here, which is their first successful garden at their new 29,000-square-foot facility. Although the owners were licensed back in 2012, it took four appeals hearings to reconcile the objections from neighboring businesses before they could begin construction of a grow facility in April 2014.

The owners also had difficulties getting this particular facility up and running well. With the current "green rush" in marijuana investment, it seems that anyone who's ever grown a plant thinks that he's an expert. But, as many investors sadly learn, it's one thing to maintain a decent-sized growroom under a few lights, and quite another to set up and manage a large, multi-room, factory-sized, perpetual-harvest commercial

grow. One of the owners of this facility was not unfamiliar with this situation: He had grown smaller gardens after becoming vested in Arizona's licensed version of medical marijuana, but he knew that a facility of this magnitude was beyond his experience. So he hired (and ultimately fired) three different "expert growers" on several trial runs, all with very disappointing results, before contracting with the Los Angeles-based Clade9 consultant "Vector Beans."

Vector decided that the best course would be to discard all of the earlier plans and architectural blueprints and start with a relatively inexpensive basic-growroom configuration, albeit modified into a sequential grow op with five flowering rooms, each one outfitted with two dozen 1,000-watt color-corrected high-pressure sodium (HPS) lamps, at \$12 a bulb. Each 28-by-30-foot flowering room would be staggered two weeks apart in development. A sixth room would be outfitted with metal halide (MH) lights for vegging, while a seventh room would have T5 panels for mothers and clones, and a smaller eighth room would be set up for manicuring and drying.



Perpetual Harvest

Harvesting a room every two weeks allows enough time to manicure and dry the harvested bud and then empty the drying room before the next flowering room is ready. Once this perpetual-harvest system had proved the concept, and a Clade9-trained crew had proved its sustainability, the facility would be expanded with four additional eight-room systems mirroring this setup, but with improved equipment and layout.

Vector expects about 1.5 pounds of bud per light, or 36 pounds per room, but he confided that he'd like to reconfigure the grow op using larger sliding beds and a more efficient layout to boost the yield to over 2 pounds per light. However, first he wanted to demonstrate that the system was not just workable but efficient, before asking the owners for more costly improvements, including higher-intensity double-ended lamps.

Complicating this test run, Vector insisted that he could manage 18 of

Clade9's cannabis varieties—many of them proprietary—and harvest them in the very first grow, so that the Herbal Wellness dispensary could immediately offer its patients a broad selection of world-class strains. Varieties such as Donna, Grand Daddy Purple, Bubba Skywalker, Jack Herer and Yin Yang (with a 9:9% CBD-THC ratio) were among the 18, all growing side by side in the flowering rooms with only a few days until the first batch is ready to harvest.

Harvesting this way will be tricky, since not all of the varieties will mature at the same rate. For the near future, Vector recommends continuing with the multiple-variety growrooms, as Herbal Wellness does not yet have enough dispensaries open to absorb big single-variety harvests. The rooms will eventually hold fewer strains with similar maturation times as the stock is built up and the demand increases, especially once the superb quality of these strains becomes more widely known. Besides

their proprietary varieties, Clade9 has acquired some of the best clones of more famous strains: Their Jack Herer is the most fragrant, terpinolene-rich cut I've ever experienced, and their Grand Daddy Purple is among the best GDP cuts I've seen.

Clade9 maintains a huge database of genetics, logging each strain's genetic history, maturation time and yield, THC and CBD figures, and profiles for nearly 40 terpenes. Besides THC and CBD, the company breeds for specific terpenes and future potential, such as varieties with higher levels of cannabichromene (CBC) and cannabigerol (CBG)—two cannabinoids that have also shown medical potential. The development and use of these genetics is shared with Spliffin, a Los Angeles-based vape and concentrate company. Clade9 has also developed the Clade9 Matrix, a system that compares genetic relationships and appears to reliably establish the uniqueness of their proprietary strains.



VAPE REVOLUTION



The IONIX combines the power of a tabletop vaporizer, the portability of a vape pen, and the comfort of a glass mouthpiece.

Brace yourself for massive, waxy vapor hits brought to you by three atomizers that can be activated individually or all at once for a monster dab.



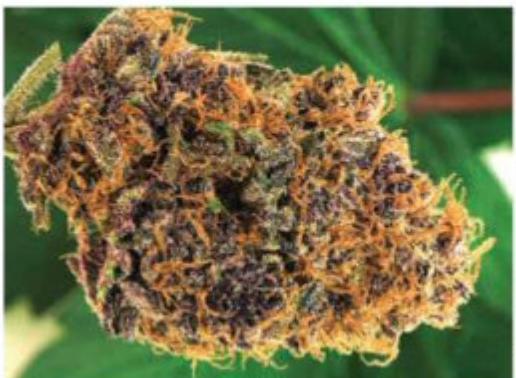
Having three separate coils gives you the power to combine different varieties of waxes and oils into a delicious single, double or even triple hit.

Welcome to a life of portable, instant, torchless dabbing with 3 times the pleasure.

**TAKE 10% OFF
WHEN YOU BUY AN IONIX
USE COUPON CODE: **VAPEREV****

420SCIENCE.COM/IONIX

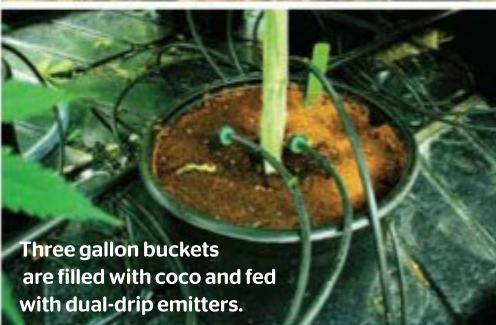




A nugget of Purple Dream



Various varieties mature at different times.



Three gallon buckets are filled with coco and fed with dual-drip emitters.



Pruning keeps plants short and stocky.



Purple Dream plants fill out quite nicely.

Grow Specs

The facility uses 4-by-8-foot beds and coco mediums for all stages of growth, with 3-gallon pots for vegging and flowering and a drain-to-waste setup with emitter arrays; the flowering rooms have CO₂ enrichment, walls lined with reciprocating fans, and plenty of A/C to cool the facility in the Arizona heat. All lights can be raised or lowered as necessary, and are monitored at the canopy level to maintain a predetermined intensity. Although Vector wouldn't tell me his optimum illumination, he did say that you can determine it through experience and an inexpensive lumen meter, and he described too much light as "shutting down growth and turning the canopy yellow."

In Vector's experience, recycling nutrient solutions, aeroponics and deep-water culture (DWC) can work well, but all are more difficult to run continuously at commercial levels without experiencing problems. The drain-to-waste setup simplifies fertilizing and water management and is an easier system for trainees to learn. Reclaiming water, especially from the A/C, is a future goal: Most of the reverse-osmosis (RO) water used here is transpired by the plants or evaporates from the mediums and can be easily collected from the A/C units. (I've seen up to 80% of the water used by a grow op recovered from the A/C, but due to metals from the condensing coils, it's often acidic and might need pH adjustment.)

The nutrients are from G-Max, starting with Base, a fertilizer that can be used throughout growth, but can also be modified using G-Max formulas intended for different stages, including flowering. I asked master grower Kelly from California's Sonoma County, whom I've known since the 1970s, to test G-Max's Swell, an additive applied during flowering that is purported to increase bud size and harvest weight. After consistently harvesting 18 pounds of flowers for years from one

of his formula grows—and never varying by more than an ounce—Kelly harvested 19 pounds from a garden he believed was maxed out after years of refining. That 6% increase in weight may not sound like a lot, but given the expense of growing weed—and the fact that this particular garden was seemingly perfect—he was duly impressed by an extra pound of top-quality bud.

G-Max develops fertilizers by in-house experiments and by carefully assessing the results. In a DWC system, the

plants' nutrient uptake was monitored to see which specific nutrients they were absorbing during the different stages of growth—including lab-testing leaf samples to determine which nutes were missing or present in excessive amounts. Such experiments and monitoring led to formulas that work—and work particularly well with marijuana. Vector continues to test leaves from this grow to hone his nutrient plan, as not all varieties respond alike to a single fertilizing regimen.

The meeting point for all autoflowering lovers,
Autodinafem's brand new website.



www.autodinafem.com

QUALITY FIRST

Humboldt Seed Organization



LEMON GARLIC OG
— NEW —

BLUEBERRY HEADBAND
— NEW —



707 TRUTHBAND
— NEW —

www.humboldtseeds.net

Final Cut

Developing this operation wasn't as difficult for Vector as it would have been for others because, after their earlier disappointments, the owners were willing to leave the decisions in his hands. Often, investors mistakenly insert their own pet ideas or begin to cut costs as a facility is being built, not realizing that this will end up costing them dearly in terms of future efficiency and production. Having enjoyed this first taste of success, Vector should have no problem convincing these owners to reconfigure the flowering rooms with the expectation of increasing yields to over 2 pounds per light.

Cleanliness is also mandatory, especially when it comes to keeping a perpetual-harvest facility pest-free. Given the absence of natural predators and inclement weather, indoor grows provide an ideal environment for pests and diseases to flourish. What many investors don't realize is that an infestation might require a complete shutdown while the whole facility is disinfected; consequently, it can be months before a resumption of harvests occurs. For this reason, every facility should have an isolation room where new clones can be



quarantined for several weeks of observation. Here, an isolation room has not been set up yet, since all of the initial clones were certified pest-free by Clade9.

If everything goes as well as this first harvest, and once Clade9 has fully trained the crew, Herbal Wellness will begin to install at least four more

eight-room perpetual-harvest grows in this facility; a kitchen for edibles and a concentrate room were already being outfitted. The nearby Herbal Wellness dispensary is clean and inviting, with lab-tested medicines from flowers to concentrates nicely displayed, and it's staffed by an enthusiastic crew. With the addition of these 18 California-quality varieties, Herbal Wellness stands to become one of the most successful dispensaries in Arizona. After all of the initial disappointments, I saw many happy faces surrounding the company's first successful big grow—and heard a few sighs of relief.

Post-harvest update: The first harvest actually yielded over 40 pounds per room, or 1.7 pounds per light. Bubba Skywalker, the first strain to hit the shelves, sold out in two days. As word spread of the superb "California quality" of its offerings, the Herbal Wellness dispensary sold more medicine and served more patients than at any time in its two-year history—in fact, 85 percent of the crop was sold in the first few weeks. And another professional test of G-Max's Swell showed an 11% increase in bud yield. 

ACQUISITION OF LIVE CANNABIS SEEDS IS ILLEGAL IN THE UNITED STATES. PAYABLE IN US DOLLARS FROM ANYWHERE IN THE WORLD.

MTG Seeds

GROW BIG... OR GROW HOME!

"HIGH TIMES" "CANNABIS CUP" "MEDICAL CANNABIS CUP" AND THE CANNABIS CUP TROPHY ITSELF ARE REGISTERED TRADEMARKS USED UNDER LICENSE FROM TRANS-HIGH CORPORATION.

COSMIC CHARLIE

TURBO DIESEL

PREZIDENTIAL KUSH

GODFATHER KUSH

PIÑA COLLISION

STONEY CREEK OG

AND MORE AWARD WINNING STRAINS AVAILABLE AT MTGSEEDS.COM



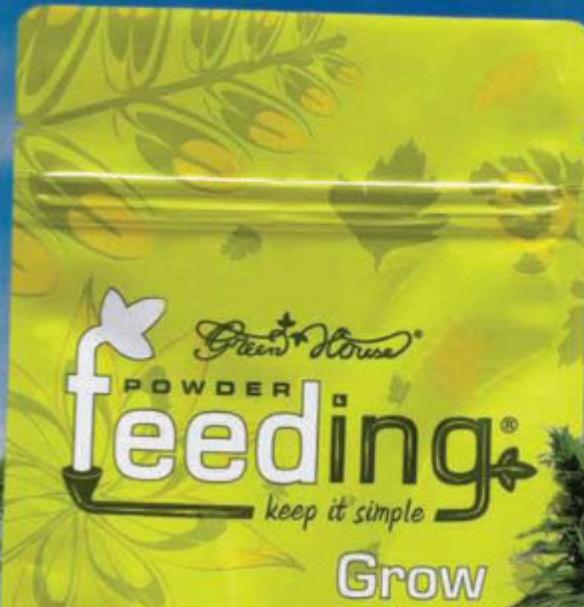
Green House®

feeding®

keep it simple

AWARD WINNING PLANT FEEDING!

NEW!



*Very soluble,
easy to use and
fast assimilation.*

*Maximum Yield
maximum resin production,
minimum effort.*

WWW.GREENHOUSEFEEDING.COM



WWW.GREENHOUSESEEDS.NL



WWW.GREENHOUSE.TV



WWW.KINGOFCANNABIS.COM



WWW.STRAINHUNTERS.COM



WWW.GREENHOUSEFEEDING.COM



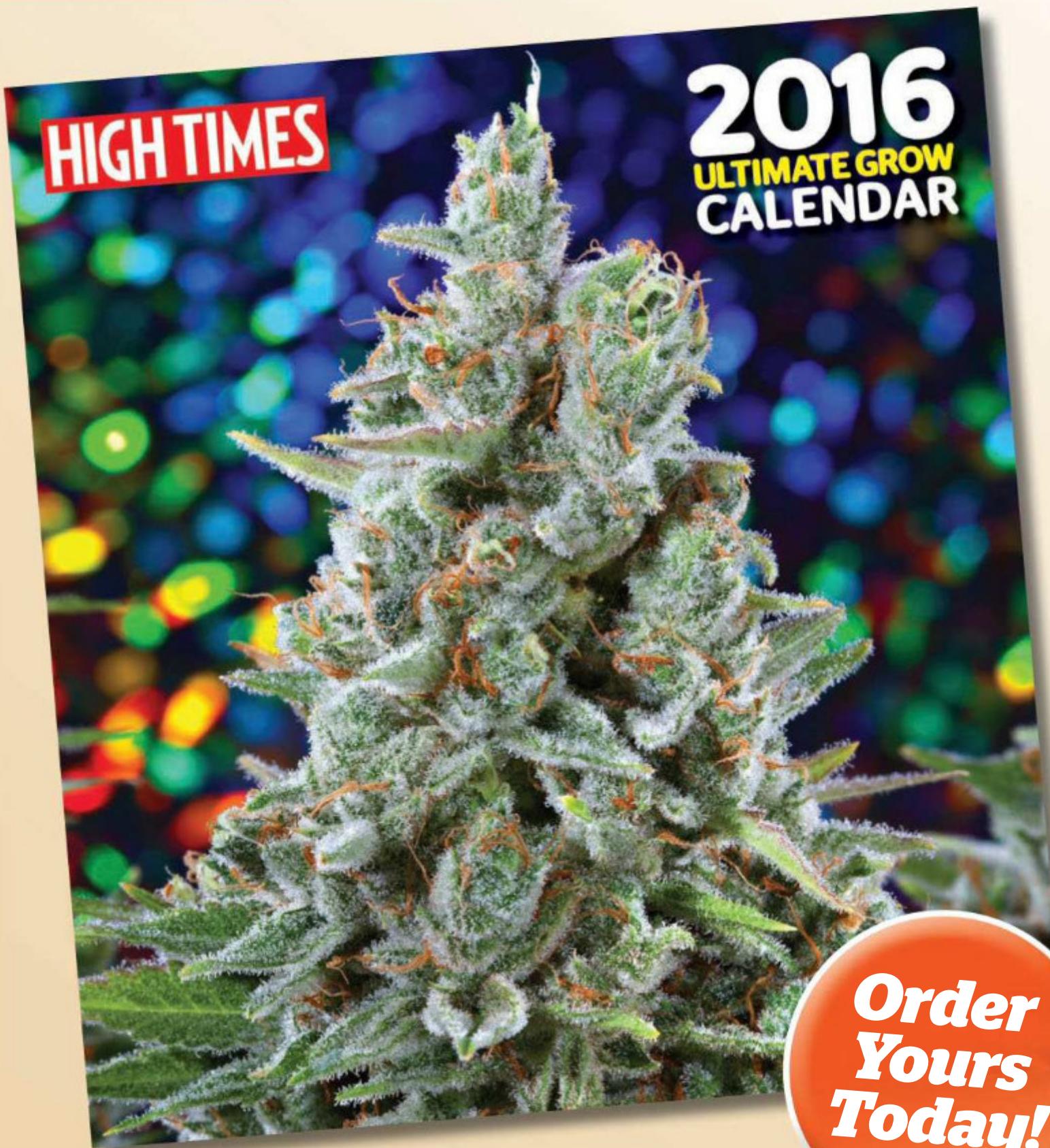
WWW.GROWHD.TV

EXCLUSIVE DISTRIBUTOR: WWW.RAMBRIDGE.COM
AWARD WINNING NUTRIENTS



START YOUR OWN GARDEN IN 2016!

It's easy with the Ultimate Grow Calendar!
Keeping you on schedule, from seeds to a healthy harvest.



***Order
Yours
Today!***

Call **1-866-POT-SHOP**

Or

Order online at **headshop.hightimes.com**

"In this excellent field guide, Danny's years of experience translate into easy-to-reference information on more than 125 strains, all at the flip of a finger, condensing everything you need to know into an easy-to-read, well-researched, concise package—with great photos too!" —JORGE CERVANTES,

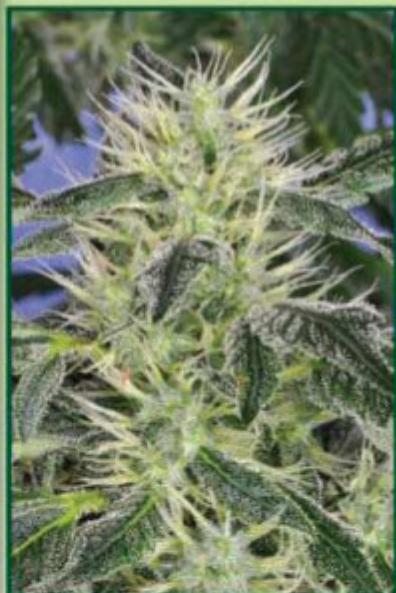
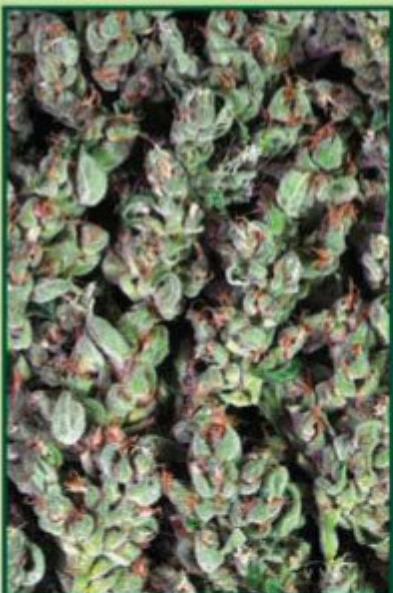
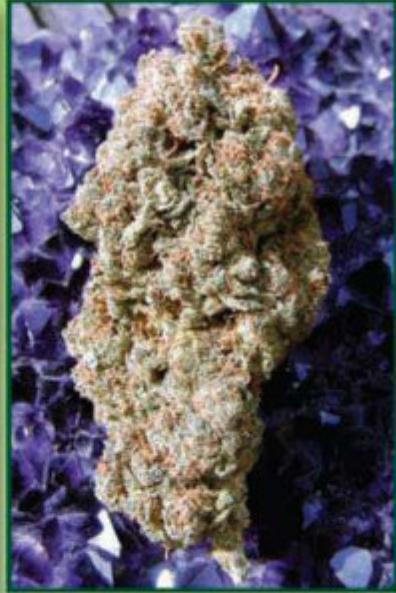
AUTHOR OF *MARIJUANA HORTICULTURE: THE INDOOR/OUTDOOR MEDICAL GROWER'S BIBLE*



THE OFFICIAL
HIGH TIMES
FIELD GUIDE TO
MARIJUANA
STRAINS

• Cannabis Cup® Winners
• Top 10 Strain Awards
• Over 125 pot varieties!

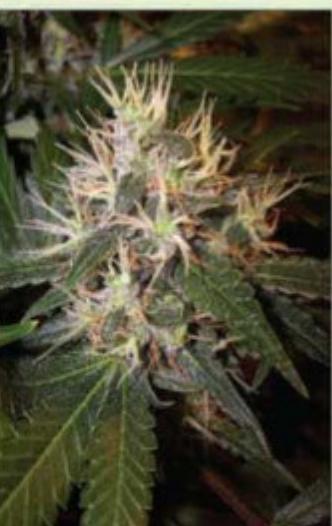
By Danny Danko, Senior Cultivation Editor
with a foreword by Jorge Cervantes



"If you wish to become more sophisticated about the large number of strains now available, you will be hard-pressed to find a better written and superbly photographed little compendium than this book." —DR. LESTER GRINSPOON

- Cannabis Cup® champions
- "Top 10 Strain" award winners
- Over 125 pot varieties described
- Cannabis buyer's guide
- Landrace & heirloom genetics
- Foreword by Jorge Cervantes

Available online at
HIGHTIMES.COM/HEADSHOP
or call 1-866-POT-SHOP





HOME GROWING MADE EASY

CABINETGROW.COM | 888-544-9376

YIELDER MAX | LED | HYDRO

Want to grow your own? No experience? You'll look like a pro with the Yielder Max from Cabinet Grow. It's easy to use, completely stealth, and features the latest technology so you get the fattest and fastest growth right out of the box. Automated and energy efficient, the system arrives discreetly, assembled, and ready to harvest every 50-60 days. Get world class service and learn more at cabinetgrow.com.



SHOWN WITH 360 WATT FLIP LED GROW LIGHT

Powerful 5 watt diodes
Custom 15 band spectrum
Great results with less energy
Available in 360 or 720 watt



Earthcab Pro
46x74.5x24



Yielder Max
24x62.5x24



Medicab Micro
23.5x25.5x18

START GROWING WITHOUT THE RISK!

90 DAY MONEY BACK GUARANTEE | 3 YEAR WARRANTY | LIFETIME GROW SUPPORT

USE PROMO CODE **HT420**
TO RECEIVE 10% OFF ANY
GROW CABINET.



INTERVIEW BY
DAN SKYE

JESSE VENTURA

THE HIGH TIMES INTERVIEW

INTRODUCED JESSE VENTURA FOR *HIGH TIMES* BACK IN 1998, AS HE WAS BEGINNING HIS SUCCESSFUL BID FOR THE GOVERNORSHIP OF MINNESOTA. SEVENTEEN YEARS LATER, THE FORMER WRESTLER, ACTOR AND NAVY SEAL HAS LOST NONE OF HIS PASSION FOR SEEKING OUT THE TRUTH—OR THE COMMON-SENSE APPROACH TO POLITICS THAT GOT HIM ELECTED. HE'S NOW THE HOST OF Ora TV's "OFF THE GRID," PROVIDING SHARP INSIGHTS INTO AMERICA'S MOST PRESSING PROBLEMS.

IN THIS WIDE-RANGING INTERVIEW, VENTURA TALKS ABOUT HIS TENURE AS GOVERNOR AND HIS DEFAMATION LAWSUIT AGAINST CHRIS KYLE, THE MYTHOLOGIZED CENTRAL FIGURE OF *AMERICAN SNIPER*. AND, OF COURSE, NO INTERVIEW WITH JESSE WOULD BE COMPLETE WITHOUT HIS RINGING ENDORSEMENT OF LEGALIZATION!

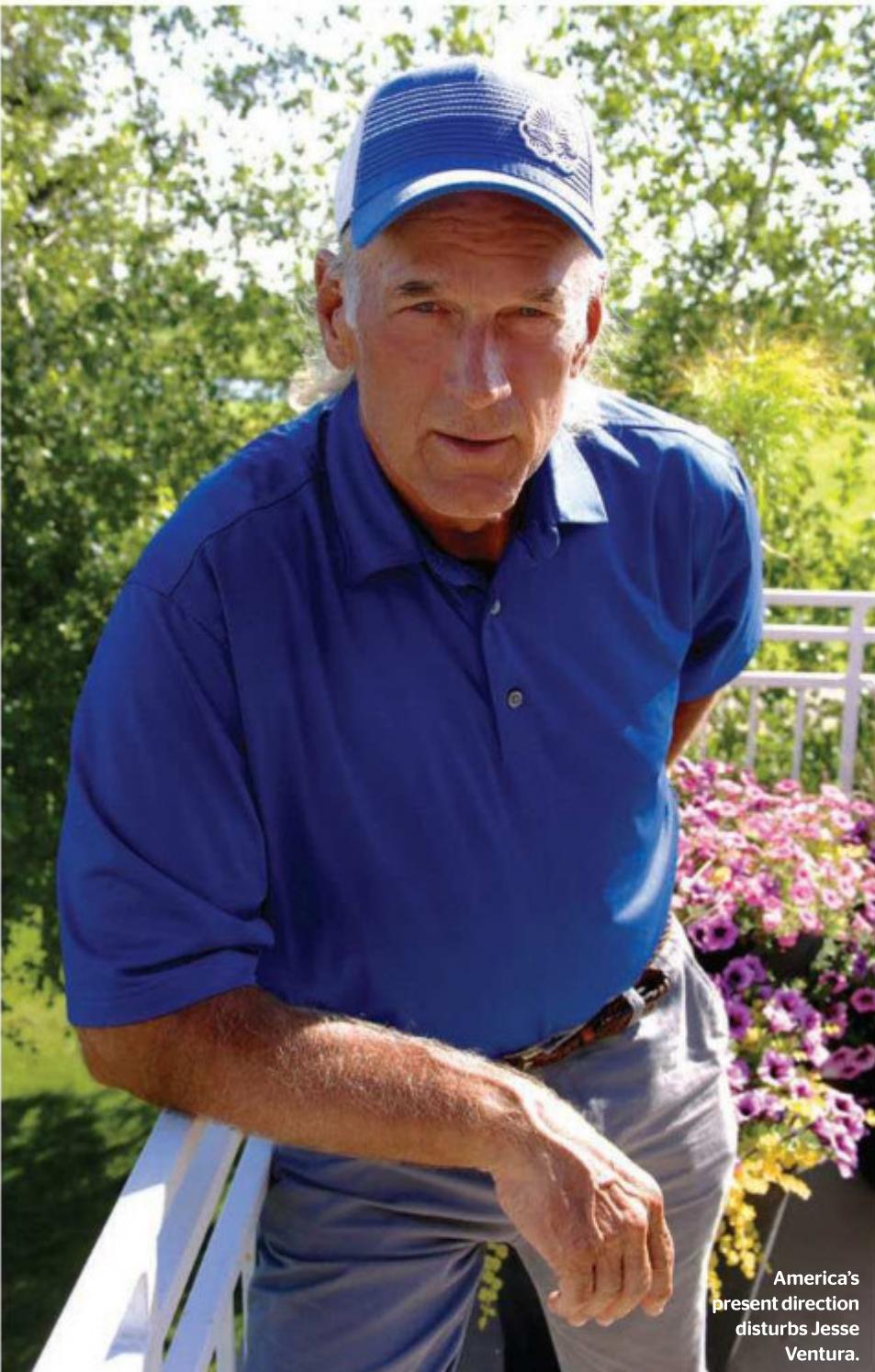
You often say you're worried about America.

Very much so. There was a time when you would look at the United States and realize that all is well, better days are ahead. I don't have that feeling today. Compare the minimum wage in this country with minimum wages throughout the world: We're lagging woefully behind. We're creating rich and poor and destroying the middle class. You're seeing unions broken on a daily basis. Yes, unions can be bad, because they're run by people—and anything people run can turn bad. But the unions created the middle class. Without unions, there wouldn't be this unique thing we had called the middle class. But it will disappear with the unions. I didn't believe this 10 to 15 years ago, but now I do. It's a part of the globalization move to get us equal with Mexico and Canada so they can put us under one currency like Europe.

Do you think we're headed in that direction?

Oh, God yes! Hillary Clinton's a globalist—no doubt about it. The globalists want rule under the elites.

Study Col. Fletcher Prouty's work. The



America's
present direction
disturbs Jesse
Ventura.

character of Mr. X [played by Donald Sutherland] in *JFK*, Oliver Stone's movie, was based on Prouty. He said that a meeting took place after World War II. The elites were frightened because dropping the bomb meant even they could die. So a meeting took place; Prouty knew of it because he flew in China's Chiang Kai-shek to the meeting. It took place between Chiang Kai-shek, Stalin, Churchill and Truman. They came to the agreement that, from that point on, all wars would be fought in Third World countries. Look at every war we've been in since then—I have to believe what Prouty said is true.

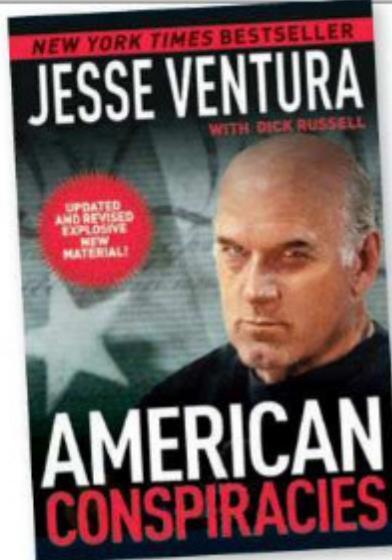
The Kennedy assassination has always been an obsession of yours.

I don't buy one shred of the so-called story of the Warren Commission. Read Harold Weisberg's book *Whitewash*. For 10 years, he tried to get the minutes to a special session of the Warren Commission [in January 1964], and he finally got it. A newspaper in Houston had reported that it had discovered Oswald had an FBI informant number and was a paid informant of the FBI. Now, logically, the Warren Commission's meeting would be to find the answer to the murder, wouldn't it? You know what the meeting was about? Covering it up—making sure the public didn't hear about this.

On the day they killed Jack Kennedy, our government died. Because if you can murder the president and get away with it, what can't you do? You can do anything.

What inspired your political views?

My dad. He'd sit at the dinner table, and he was very vocal. He had a right to be, considering he had six Bronze Stars from World War II. He fought in North Africa, Normandy, the Battle of the



Bulge, Anzio and Berlin. He was with the 699th Tank Destroyers under Patton. And my mom was also a World War II veteran, a nurse in North Africa.

Was it a natural progression for you to go into the military?

Probably, but over the objections of my dad—he was opposed to the Vietnam War before the hippies were. I remember talking to him about the domino theory [the notion that a communist victory in one nation would lead to a chain reaction of communist takeovers in neighboring countries]. He looked at me and said, "That's bullshit!" He said, "Somebody's making big money on this war, and that's the only reason we're there."

I've since learned that he was right ... and it carries on. Brown & Root got a billion dollars for dredging Cam Ranh Bay during Vietnam so our ships could anchor.

Well, I guess they figured they didn't want to be called "war profiteers," so they changed their name. Do you know who Brown & Root is today? Halliburton. They've been profiting off wars since Vietnam, to the tune of billions. They got no-bid contracts in the Iraq War. I've been a mayor and a governor, and at no time did I ever hear that you could grant a contract without a bid. Somehow, at the federal level, that's okay. It's called corruption.

Do you know who Brown & Root is today? Halliburton. They've been profiting off wars since Vietnam, to the tune of billions.

How did you make a transition from the military into the world of wrestling?

I did two tours, a nine- and an eight-month tour in Southeast Asia. I'd been riding motorcycles after my first tour. In your first tour, you have what's called a "sea daddy," an old-timer who takes you under his wing. My guy used to ride Harleys. When you're overseas, your checks build up. So when you come back, you got a lot of money.

I'd been riding with two civilian friends in Coronado, Wally and Moose. When I came back from my second deployment, I ran into Wally and Moose again, who were now full-patch members of the Mongols Motorcycle Club. That was my transition out of the Navy: I became a full-patch member and rose to sergeant-at-arms in less than a year. I still have my colors. It was a unique transition out of the military, because bike clubs are militaristic. But you can grow your hair out, and you have a lot of freedom.

I left the Mongols and came back here to Minnesota and entered college, because I saw that it was probably a one-way trip to jail. One night, before I got out of the Navy, all my friends were busy, and wrestling was down at the auditorium. I went by myself, got a ticket in the front row. It intrigued me. I thought pro wrestling combined both

athleticism as well as theater. I met a former pro wrestler, trained with him for seven months, three nights a week. When he thought I was ready, I dropped out of school. I sent my photos around. Kansas City called. I got a tryout and the rest is history.

What do you think you brought to the sport?

Certain people have charisma—I don't know, auras about them. I was always a villain or a heel. I found it easy to anger people, to manipulate them, incite their emotions. That's really what you're doing in wrestling, at least in my day: performing the constant battle of good versus evil.

How do you view your record as governor of Minnesota?

I put in the first light-rail line. They're building it, and it's going to be a whole system. I also gave rebate checks. When the government over-taxes people, it's supposed to give it back.

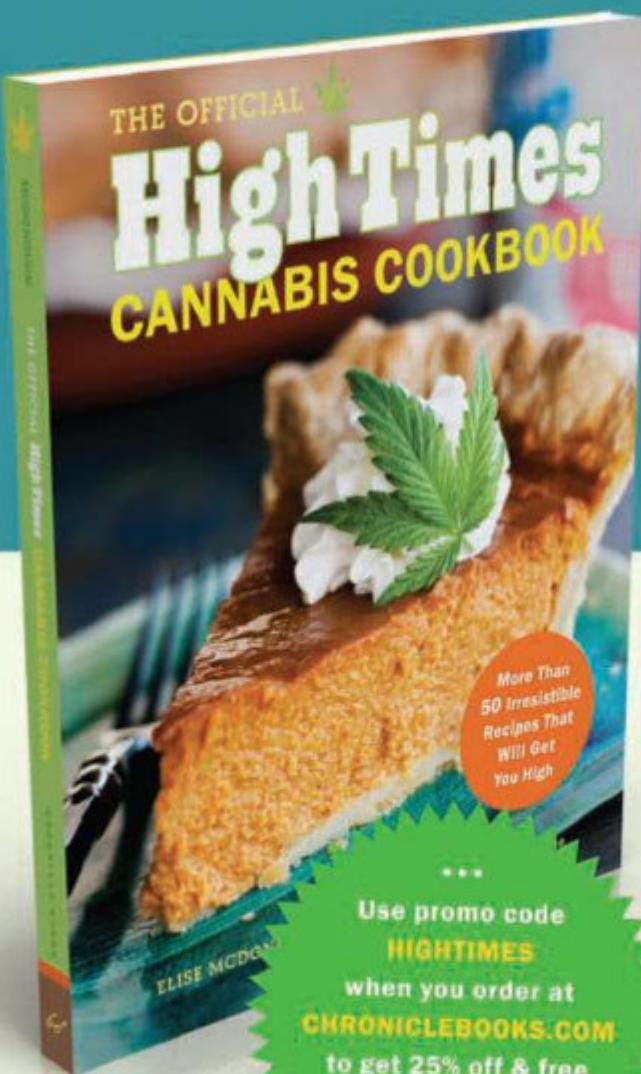
Didn't the state deficit increase under your administration?

You have to understand that the legislature overruled my last budget, and they overruled both my vetoes—so if it rose, it's their fault. The deficit went up because they put it on the charge card, not me. Two years later, they had a \$5 billion deficit because of what they did.

At first, it wasn't hard to work with them. My first three years, I had a Democratic Senate and a Republican House; whoever I sided with prevailed. But in my last year, they got in bed together to oppose me. So when they say the deficit rose during my time, it did not! It went up because two years of that budget belonged to them, not me.

What are you proudest of as governor?

Winning it. No one gave us a chance. We only spent \$300,000—that's all I raised.



...
Use promo code
HIGHTIMES
when you order at
CHRONICLEBOOKS.COM
to get 25% off & free
US ground shipping!
...



THE OFFICIAL **High Times** CANNABIS COOKBOOK

GO WAY BEYOND THE BROWNIE

50+ irresistible recipes that will get you high, including:

- Time Warp Tamales
- Pineapple Express Upside-Down Cake
- Sativa Shrimp Spring Rolls
- Pico de Ganja Nachos

INCLUDES RECIPES INSPIRED
BY SNOOP DOGG, CHEECH AND
CHONG, AND WILLIE NELSON!



\$18.95 • Paperback

AVAILABLE NOW AT
HEADSHOP.HIGHTIMES.COM



CHRONICLE BOOKS



SuperLocker LED FEATURING:

KIND LED
GROW LIGHTS

S.T.A.S.H AWARD WINNER!

KINDEST YIELDS

700 mA Driving current diode efficiency and output, resulting in a brighter, higher yielding footprint

KINDEST SPECTRUM

Proprietary 12 band complete "Perfect Spectrum" powered by 3 watt diodes

KINDEST INTENSITY

Secondary optical lens magnifies PAR and increases canopy penetration by up to 200%

KINDEST QUALITY

Extra large heat sinks, quiet fans, precision drivers, superior craftsmanship

COMPLETE AUTOMATED HYDROPONIC CABINET SYSTEM THAT COME WITH EVERYTHING YOU NEED TO EFFECTIVELY GROW INDOORS! SYSTEMS AVAILABLE IN EVERY SIZE AND SHAPE TO SUIT EVERY GROWER'S GOALS AND BUDGET!

PH. + 877. 476 . 9787
WWW.SUPERCLOSET.COM

I actually made more money doing the job than what I spent to get it, less than any other major political figure—governor, congressman, senator, anyone. I did that because of my dad. When I was young, my dad told me all politicians are crooks. I said, "C'mon, dad—you can't make a blanket statement like that." He goes: "They are. They spend a million dollars for a job that only pays a hundred grand."

No one in the private sector would spend more money for a job than what they're going to earn. Yet politicians do.

While governor, you were criticized for taking a job as a broadcaster for the XFL, the defunct pro-football league. Do you regret that?

No. It was on the weekend. In the entire four years that I was governor, the capital was never open on the weekend. Second of all, how come I wasn't criticized when I'd bale hay on the weekends at my farm?

Did you feel like a target when you were governor?

Of course I was a target.

Did it piss you off?

Not a bit. I was trained "Never get mad—get even." I've carried that through life. The only time I minded being a target was when the Minnesota media went after my children. I thought: "How low will they go, when they attack your children?"

Do you think you were successful as a governor?

Completely. And I would have been re-elected—there's no doubt in my mind. I remember my approval ratings fell to 45 percent at one point, from a high of 73—the

highest any governor had ever had. I'll never forget the media: "Well, what do you do now, Governor? Your approval rating is under 50 percent."

"Really?" I said. "I won with 34 percent of the vote in a three-way race. If I'm at 45, that means I'm up eight. In a three-way race, 45 percent is a landslide. I'd say I was pretty solid."

In your campaign, you were a staunch hemp supporter. Did you push the issue as governor?

I tried. I would have done anything to legalize hemp. I couldn't even get the legislature to vote on

Let's get our head out of the sand, let's modernize, let's lower our judicial costs in all the states.

unicameralism [in which all members deliberate and vote as a single group]. It's a better form of state government. All I wanted was for the people to have the opportunity to vote on it after an education process about the differences between unicameral and bicameral legislatures. But the legislature wouldn't even take a vote on it ... gutless cowards.

If you believe in something, then vote: Let the public know where you stand.

What's your reaction to the rise of cannabis legalization?

It's wonderful—it's long overdue. It should never have been made illegal.

Have you smoked throughout your life?

Off and on. As governor, never; as a civilian,

yeah. That's my business. But never when I was in office. If it's legal, I see no difference between that and a glass of wine. In fact, I don't drink alcohol. I haven't had alcohol since 2002. I wasn't an alcoholic; I just cut it out of my life completely. I don't like it.

Cannabis is a recurring topic for you when you're on the air. What do you see holding up progress?

Big Pharma, alcohol, tobacco ... they don't want marijuana legalized. Because if it's legal, you can grow it in your backyard. They don't want you doing that when they can sell you high-priced pills, which probably don't work, through an insurance company.

This is an entire economy waiting to happen. This is job creation, tax dollars, something to rejuvenate our pathetic economy. This is a billion-dollar industry. I always make the argument that the Constitution and the Bill of Rights are written on marijuana. If that can't make it legal, what would? It's the fabric of our nation.

Let's get our head out of the sand, let's modernize, let's lower our judicial costs in all the states. This is about jobs; this is about economics; this is about freedom.

You're adding chapters to your book *American Conspiracies*. Tell us about that.

One of them focuses on 9/11, with the redacted pages [in the 9/11 Commission Report] that state unequivocally that the Saudis financed the hijackers. Here's the theory that's been sold to everybody: 19 Islamic radicals, armed with box-cutters, defeated our multibillion-dollar

ANNOUNCING... BIGGER BETTER BUDS BOX

NOW YOU HAVE EVERYTHING YOU NEED FOR BIGGER,
BETTER BUDS (MORE CONSISTENTLY) IN ONE BOX!

pH Perfect® 2-Part Sensi Grow & Bloom:

Enjoy the best grow of your life, with our easy-to-use and world-famous, cup-winning base nutrients. These premium 2-part pH balance-free base nutrients are actually 5-products-in-1 because each bottle contains Wet Betty, Fulvic Acid, Humic Acid, 20 L-form Amino Acids and pH Perfect® Technology—these are the bud-getting bonuses you can't buy because we include them in every base nutrient we manufacture (at no additional cost to you).

With these base nutrients you'll have everything you need to produce your absolute biggest, heaviest harvest yet.

BUT WE DIDN'T STOP THERE...

Big Bud: Put the BIG in your buds with our world-famous cup-winning bloom booster!

Voodoo Juice: Enjoy the benefits of beneficial bacteria with this best-of-class root zone colonizer that expands root mass 700-1,000%!

Bud Candy: For stickier, sweeter bud enhancement use this critical carbohydrate mix for big, sugary buds!

Nirvana: Get bigger, stronger plants & ooey-gooey sticky buds with this proven potency & stalk strengthening supplement!

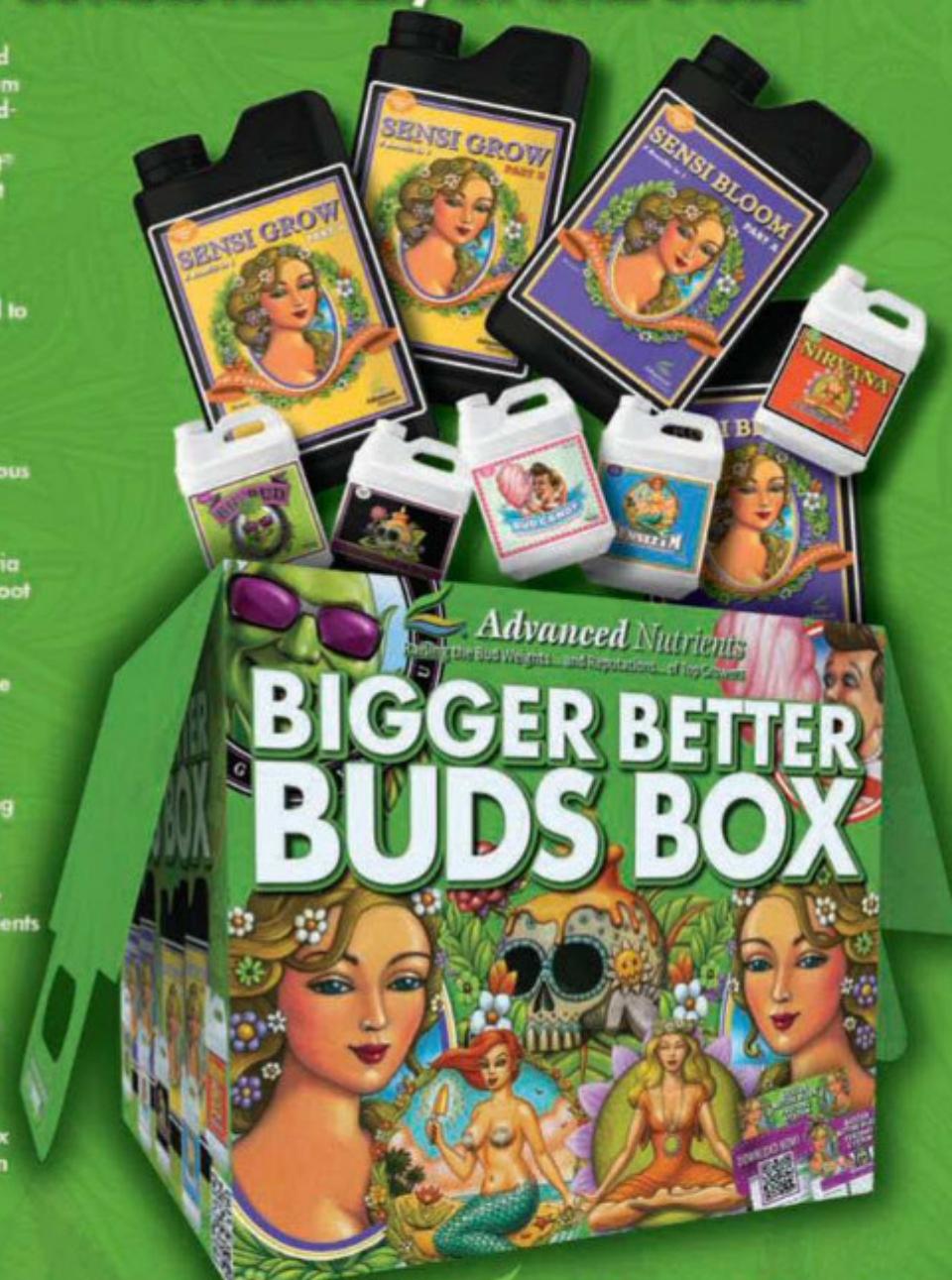
Sensixym: This crop substrate supercharger powerfully cleans your root zone of debris, recycling into usable nutrients that fuel bud growth!

As always, you risk *nothing* when you choose Advanced Nutrients because you're backed by our world-famous, money-back, Grower Guarantee.

What are you waiting for? Try the Bigger Better Buds Box today and get everything you need for your next grow in one convenient package.



Ask your local hydroponic retailer
about what Advanced Nutrients
can do for your garden today!



Advanced Nutrients
Raising the Bud Weights... and Reputations... of Top Growers



AVAILABLE ON AMAZON AND KINDLE

HFS
www.HardwareFactoryStore.com

Herbal Extraction Vacuum Oven

SKU	Description	Size	Price
6020-T	Steel Chamber Vacuum Oven	0.9CF	\$999
6050-T	Steel Chamber Vacuum Oven	1.9CF	\$1,499
6020	Stainless Steel Chamber Vacuum Oven	0.9CF	\$1,199
6050	Stainless Steel Chamber Vacuum Oven	1.9CF	\$1,699
2X2-2A	Dual Stage Vacuum Pump	5CFM	\$299.99
2X2-5A	Dual Stage Vacuum Pump	12CFM	\$369.99

- More powerful 5CFM and 12CFM pump to quickly reach -1 Bar vacuum for quicker extraction
- 2 Solid Aluminum shelves standard with up to 3 shelves (0.9 CF) or 5 shelves (1.9 CF) optional for greater production
- All parts and fittings are included, ready to use out-of-the-box
- 1 Year Warranty
- Free Connector Fittings
- 5 or 12 CFM Pump
- 30-Day Money Back Guarantee
- 480°F Max Temperature
- PU or Stainless Steel Hose

DISCOUNTS on Bundles & Multiple-units are AVAILABLE!

Office #: 626.332.7744
Call/Text: 213.570.7287
684 Arrow Grand Circle, Covina, CA
- LOCAL PICKUP AVAILABLE

HardwareFactoryStore.com/bho

air-defense system, all while conspiring with a bearded guy in a cave in Afghanistan. And we fully accept that.

Well, it's not true! But that's what they sold the American public. Everybody [on those airplanes] is dead, so how did they determine the planes were hijacked with box-cutters? Somebody came up with it, the media ran with it, and it became the truth. What proof is there that box-cutters were used?

What other topics do you include?

That everybody in the military is led to believe that our government will do anything and everything if you're lost behind the lines. It's a big fucking lie.

Then there's the stuff they're putting in vaccines. The mercury put in vaccines is lethal to you, and it's being done to save money. It would cost \$30 million more to do single doses without this shit, but they prefer multiple doses. It's cheaper.

You're often called "eccentric" or an "outsider." Why is that?

Conspiratologists are often called "eccentric" because we actually go beyond the mainstream media. Conspiracy theorists generally are more intelligent than the average public, because they actually study; they actually satisfy curiosity. Counter to that, the government gives us nothing but conspiracy theories.

Recently, you sued the estate of Chris Kyle, the "hero" of American Sniper. Can you explain?

I was down in Mexico. My son emailed me that a Navy SEAL had said he punched me out in a bar in San Diego because I was saying SEALs deserve to die. First of all, what doesn't make sense is that I was there because it's a tradition. I'm class 58 of the Navy SEALs; class 258 was graduating the next day. It's a

tradition that at the centennials and bicentennials, the old guys come back to attend graduations. If I hated the SEALs, why would I be there? Why would I be there honoring the 258 graduation? Kyle came out with this story that he knocked me out in the bar. Then the story changed. It's so ridiculous: In his book, tables and chairs flew, but in his deposition, he said it happened out on the street, and I hit my head on the curb and never got up.

Apparently, I did meet him on the night in question, but I probably met 50 people that night. I had no idea who Chris Kyle was.

Did you get any flack for suing?

Yeah, huge. Bill O'Reilly got on TV and told me to drop the lawsuit and man up. Let's do a hypothetical. A veteran writes a story about you and accuses you of being a child molester. You sue because he won't retract—because you're not a child molester, and this would ruin your reputation. Then that veteran dies. Would you drop the lawsuit and go down in history as a child molester, or would you continue the lawsuit to seek the truth? What would you do? You'd continue, wouldn't you?

That's what I did. Yet they portrayed it that I was taking money from the widow and her children, which was a lie: Insurance paid everything for them. They ain't out one nickel. I'm out three-quarters of a million dollars. That's what it cost me to go to court for three and a half years. And their unethical attorneys tried to win the case in the court of public opinion rather than the courtroom.

Kyle did it all for fame and money. Tell me we haven't lost our moral compass when liars like Chris Kyle are turned into heroes. He's not a hero. A hero has to have honor, and a liar has no honor—so therefore he falls short. You cannot lie and have honor. *

DON'T GET HIGH WITHOUT IT!

THE OFFICIAL 
High Times
**POT SMOKER'S
HANDBOOK**

by David Bienenstock and the editors of *High Times* magazine

FEATURING
420 THINGS
TO DO WHEN
YOU'RE
STONED

THE OFFICIAL **High Times** **POT SMOKER'S HANDBOOK**

FEATURING 420 THINGS TO DO WHEN YOU'RE STONED
By David Bienenstock and the editors
of *High Times* magazine

Learn how to roll the perfect joint
Make the most potent pot brownies
Smoke-proof a dorm room
Order off an Amsterdam coffeeshop menu
Improve your jay-dar
And much, much more!

BECAUSE IT'S ALWAYS 4:20 SOMEWHERE...

Available at headshop.hightimes.com,
1-866-POT-SHOP, and at your local bookstore!



CHRONICLE BOOKS

The Future of Home Extraction

How Mr. Extractor's simple, safe and effective design is changing the concentrates game. *By Craig Coffey*



The 1-pound Mr. Extractor boasts high yields and quick recovery.

ALTHOUGH CONNOISSEUR CONCENTRATES WAS FOUNDED ABOUT 18 MONTHS AGO, THE RESEARCH AND DEVELOPMENT FOR ITS CLOSED-LOOP EXTRACTION DEVICE, MR. EXTRACTOR, HAS BEEN UNDERWAY FOR ROUGHLY SEVEN YEARS. WE SAT DOWN WITH CONNOISSEUR CEO DREW JONES TO DISCUSS THE COMPANY'S FLAGSHIP PRODUCT AND THE FUTURE OF EXTRACTION.

When did you first start working in the cannabis industry?

I've been growing and extracting since I was young. Cannabis has been my life's work. It's my distinct pleasure to run this company and supply my devices to every legal location on the planet. It seems fitting.

Tell us about the Mr. Extractor R&D process?

As the inventor of Mr. Extractor, I was inspired years ago by the Tamisium Extractor. I set out to create my own system with improvements that I felt would be beneficial. I conferred with others who were pioneering and developing early extraction devices, and ended up designing a 3-pound device very similar to the current iteration of Mr. Extractor.

Originally, it was designed to be both active and passive. However, after running the device a few times, I quickly realized that operating in active mode created situations I was not comfortable with. There were very high pressures and high temperatures, and the pumps were not fire-rated. Cannabis oil was entering the pumps and degrading the seals, destroying the pumps and then passing contaminants through into the extracts. I had in mind to retail these devices at some point, but I couldn't sleep knowing that I would be designing and selling a system that operated with a pump that was contaminating the final product. I decided to abandon the HVAC recovery pumps and focus on amplifying the thermodynamic factors that were assisting in the recovery process. By slightly modifying the device,

APX

AFFORDABLE. PERFORMANCE. XTREME. THE PULSAR APX



Wax & Oil
Tank Included



MSRP
\$60.00



CERAMIC
CHAMBER



5 HEAT
LEVELS
356°-428°



MICRO USB
CHARGING



BATTERY
LEVEL



COMPACT
4" TALL

PULSAR®
WORLD CLASS VAPORIZERS

5-CLICK BUTTON
LOCKING FUNCTION

6 MONTH WARRANTY

1.5HR CHARGE TIME



www.PulsarVaporizers.com

Turn over a new leaf Try Vegetarian

For a free vegetarian starter kit, call 1-888-VEG-FOOD, or visit GoVeg.com

PETA

San Francisco

WORLD'S EASTWEST TRIMMING

HYDRO HIPPY

HYDROPONIC WHOLESALE & MORE

WET AND DRY TRIMMERS IN STOCK!

2 IN 1

We Carry all Growing Equipment & Supplies

Mil's Famous COLLATOR P150 P500 P3000

BUBBLE BAR USA DISTRIBUTOR

Bubblebar ALL ITEMS IN STOCK

THE HIGHEST QUALITY PLANT ESSENCE EXTRACTORS IN THE WORLD

FREE SHIPPING*

2 IN 1 MACHINE

REGULAR PRICE \$850

FIRST 100 CUSTOMERS \$850

TOP AUTO LOADER + MANUAL STATION = AUTOMATIC 2 DAY SHIPPING

WWW.HYDROHIPPY.COM

ORDER ONLINE SECURE AND DISCREET

CALL US 415.424.5352

SAN FRANCISCO CA

we were able to operate it passively very efficiently.

During this time, I developed a relationship with my manufacturer, and over the next couple of years, we built prototypes and modified the existing device until we had some models that worked extremely well passively—no pressure, low temps, fast recoveries. We were extracting 3 pounds and recovering in around 20 minutes.

What I can also tell you is that money cannot buy the support that has been given to us. Our R&D consists not only of our staff, but countless welders, engineers and specialists in the “high-purity sector” that have come together and donated their time and knowledge to help us make this product simple, beautiful and functional.

What unit sizes are available?

We started out with a run of 8-ounce units and have since upgraded to a 1-pound unit, which will be the flagship Mr. Extractor. We have an amazing 5-pound prototype that recovers in as little as 24 minutes passively and operates around 5 PSI or in a vacuum, depending on the water temperatures.

We know there's a market out there for a smaller, entry-level closed-loop system too, as people want to move away from open blasting. But the alternatives are very expensive for the beginner. We've gotten a lot of requests and will be designing an entry-level 4- to 6-ounce Mr. Extractor, passive and closed-loop, so that we can offer the community a reasonably priced and safe beginner's device. We think of these smaller devices as a sort of community service, since the price we'll be offering them at will leave very little room for profit. Our goal is that our clients will use the device, make

some money and eventually step up to the larger units.

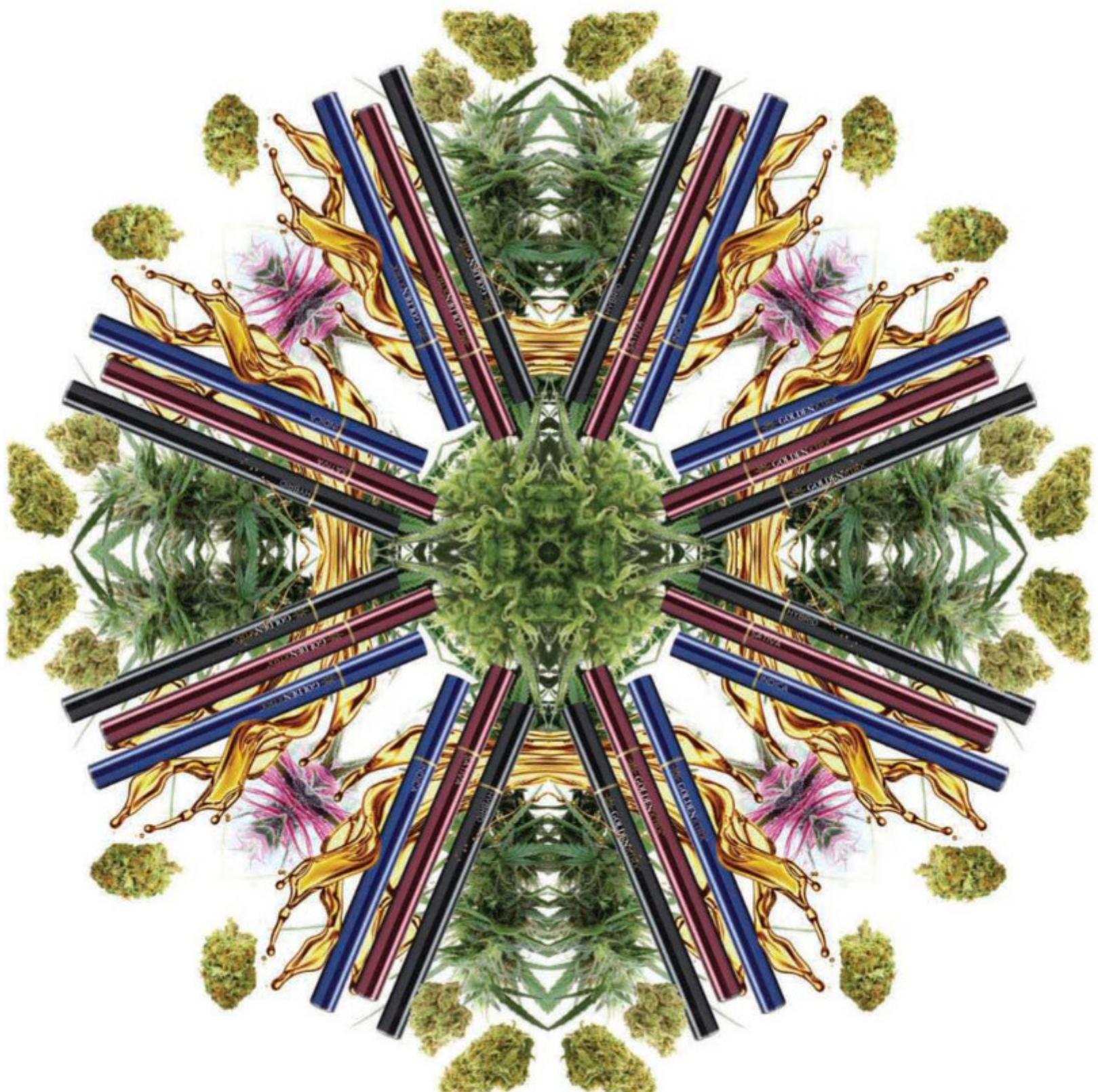
What's next for Connoisseur Concentrates?

Connoisseur Concentrates is much more than Mr. Extractor. Mr. Extractor embodies a thermodynamic principle of recovery that we have dubbed ThermoFlux Technology, or the thermodynamic refluxing and recovery of a solvent. It is this principle, which is scalable, that powers our multi-capacity-sized line of extractors. We have designs for 10- and 20-pound passive extractors that will work in the same timetables (20 to 30 minutes or faster). Our engineers are champing at the bit to design fully automated butane-extraction and -recovery devices. What most people don't realize is that we've included the use of refrigerant-recovery devices in our patents and aim to incorporate them into our systems down the road, with an emphasis on safety. We will also be making propane systems as well as food-grade water-separation systems.

Where do you see the company in five years?

I see our company having a very large presence. We view the majority of current extraction devices as very complex, well functioning and beyond the needs of the average consumer. Mr. Extractor was never meant to compete with the complex extractors of today's market; it's designed for simplicity, beauty, speed and ease of use. In the coming years, the market will split into very simple low-volume extractors and extremely complex high-volume extractors. We will have a hand in both. *

To check out video of the Mr. Extractor in action, go to high-times.com/mrextractor.



 #goldenxtrx

One of Colorado's Finest



livegreen cannabis open 'til midnight

20% off

Your Entire Purchase
when you present this ad

livegreen cannabis patients ✓ choice
Medical & Recreational 21+

Edgewater

2517 Sheridan Blvd

Edgewater, CO 80214

720.920.9617

Broadway

2251 S Broadway

Denver, CO 80210

303.826.5016

Morrison

4000 Morrison Rd

Denver, CO 80219

303.997.4602

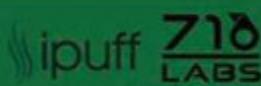
Lakewood

7063 W Colfax

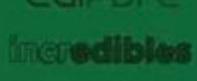
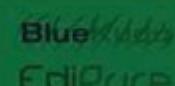
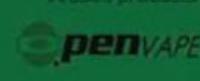
Lakewood, CO 80214

303.233.3901

www.livegreencannabis.com
your one stop cannabis shop



MAHATMA
EXTREME CONCENTRATES



Expert Grow Advice

Windowsill weed, greenhouse security, power outages, strain names and more...

Send your cannabis cultivation questions to @deardanko or deardanko@hightimes.com.

SUBJECT: **Balcony Grow**

FROM: **Smokeahontas**

My boyfriend and I are growing marijuana for the first time. We found two seeds in some weed we bought, and we also have seeds that we got at the Cannabis Cup. We are currently growing them outdoors on our balcony in Southern California. The plant we have in a hanging pot seems to have stopped growing. The other seeds are growing in a 3-gallon pot. My question is: Can wind affect the plants? Also, what would you recommend to help them continue to grow and be healthy if they are outside plants?

Dear Smokeahontas,

Wind can definitely affect plant growth: Strong winds in particular will keep growth stagnant, as the plant works hard just to stay upright and alive. I would recommend transplanting the hanging plant into a larger container and keeping it in a place where it's protected from strong winds. Also, keep your plants under full sunshine and water them with a nutrient solution as necessary, and you should see them bounce back and recover. Remember, the bigger the container their roots are in, the larger your plants can grow and the heavier their yields will be. More root, more fruit!



Danko Tip: Oxygenated compost tea can be used as a foliar feed or as a soil drench to provide a mild dose of nutrients.



SUBJECT: Wet Dry

FROM: Cloud

Hi, Danny, I have a story for you. About three weeks ago, I was drying my Northern Lights x Blueberry buds in my friend's basement in a closet-like room. I had two fans going—not too powerfully—plus a humidifier on, because my friend said I needed the humidity. I had the humidifier all the way up, and I checked on my hanging buds every two days. On the eighth day, they had lots of white, fuzzy mold on them. It was an utter tragedy for me, being my first grow.

My questions for you, Mr. Danko: Do I need a humidifier for hang-drying? Is moisture important for hang-drying? Are fans important for hang-drying? What did I do wrong? Thank you gratefully.

Dear Cloud,

I think your friend ended up giving you a bum steer. In most places, when it comes to drying marijuana, humidifiers are not necessary—in fact, many growers use dehumidifiers in order to remove moisture from the air that's coming from the drying plants. With the exception of places like Colorado and Arizona, where dry air is the norm, it's more likely that you need to pull water from the air rather than add it.

It's very important to maintain temperature and humidity at the proper levels throughout the drying process. I recommend 65°F to 75°F and right around 50% humidity. Lower than 45% will result in plants drying too quickly; higher than 55% will lead to mold such as you experienced. Also, make sure

your drying is done in a cool, dark place with decent ventilation, but avoid having fans blowing directly onto the drying branches. Remember, light, heat and air will all degrade buds, lowering their aroma, flavor and potency. If you want the highest-grade cannabis, invest in the proper equipment to ensure an optimal drying experience. And last but not least, be sure never to smoke, vaporize or otherwise consume moldy marijuana!

SUBJECT: Growing With Gems

FROM: Southwestern Arizona Grower

I grow indoors and out, and I've always placed gemstones with metaphysical properties that correspond with the root chakra (agate, black tourmaline, smoky quartz, most red, black and gray stones, etc.) at the base of my plants to promote vigorous growth. That's my own hippie logic, but have you ever heard of anyone else trying this? Have there been any studies on it?

Dear SAG,

I have no information, positive or negative, on the use of gemstones around cannabis plants, nor do I know of any studies on the subject. My personal opinion is that they'll have no good or ill effects on the plants themselves, so if it makes you feel better, by all means, do it. The important thing is that you don't put all your energy into ensuring that the gemstones are "working" and thereby ignore other problems that can arise in the garden.

My friend EZ-Gene always says, "Never put minor before major"—meaning don't let the little things get in the way of tending to the bigger issues such as temperature, humidity, nutrient levels, watering regimen and pest control. As long as the gemstones aren't your foremost concern, let them sit around your plants and do their thing.

SUBJECT: Flowering Clones

FROM: Big D Papa

I have a question about some clones that I got from a friend. They were all about 6 to 12 inches in height, but they were already budding. I don't know how this happened, since they were grown outside, but I'd like

DISCOUNT HYDROPOONICS®

WE'RE GROWING...COME GROW WITH US!

WE PROUDLY CARRY THE FULL LINE OF XNUTRIENTS

XNUTRIENTS



One of the Largest
Hydroponic Stores
in the USA!

- Lowest Prices
Guaranteed!
- Discreet Packaging
- Largest Inventory

- Confidential
Transactions
- We are the Mail Order
Professionals!

FRANCHISE OPPORTUNITIES AVAILABLE! **877-GROW-IT-7**

3 LOCATIONS **TO SERVE YOU!**

DISCOUNT HYDROPOONICS OF RIVERSIDE
4745 Hiers Ave.
Riverside, CA 92505
951-689-4575

DISCOUNT HYDROPOONICS OF VICTORVILLE
15208 Bear Valley Rd. Suite B200
Victorville, CA 92392
442-242-7994

DISCOUNT HYDROPOONICS OF PALM SPRINGS
1251 Montalvo Way, Suite H
Palm Springs, CA 92262
760-424-8292

PreGro[®] PLANT SPRAYER

FILL WITH ANY SOLUTION TO PROTECT & NOURISH YOUR PLANTS

The PreGro portable garden sprayer atomizes 18 oz. of any liquid delivering an even, continuous spray which covers up to 160 sq. ft. Every unit is disposable and recyclable. Simply fill, attach and spray.

FILL **ATTACH** **SPRAY**

LEARN HOW TO MAKE THE FOLLOWING REMEDIES, FERTILIZERS & MORE AT WWW.PREGROSPRAYER.COM

PEST PREVENTION SPRAYS **SEEDLING INOCULATION SPRAYS**
POWDERY MILDEW PREVENTION SPRAYS **COMPOST AND BREWED SPRAYS**
NUTRITIONAL FOLIAR FEEDING SPRAYS **PRECISION BASED CHEMICAL SPRAYS**

APPROVED FOR USE IN ALL 50 STATES

Powered by PREVAL

NEW from TNB Naturals

TNB *CO₂ Enhancer*

The 1st & only refill pack for passive CO₂
Easier & more cost effective than ever!
Now available across the globe!

Let's Connect! [#tnbco2](#)

Enhancer
 TNB CO₂ Refill Pack
 All Natural & Made in B.C.
 210g

The Refill Pack

1.888.543.8988 tnbnaturals.com [tnb_naturals](#)

Danko Tip: The most important part of integrated pest management is vigilance: finding the bugs before they become a full-fledged infestation.

to know if this will affect their overall yield. Should I toss the clones and start over, or is there still hope for them to survive and thrive down the road?

Dear BDP,

I've seen this problem arise plenty of times: People forget to clone their plants during the vegetative stage and then think they can get away with doing it during flowering. The problem is that the flowering clones must then revert back to the vegetative stage, and this process takes time and can also result in shocking the plants into strange behaviors.

I strongly suggest taking clones only from vegetating plants. In this way, you'll avoid having to re-veg them, as well as issues like the clones turning into hermaphrodites or mutating in other ways due to stress (for example, sometimes the leaves will come out twisted or with only one or two blades). All of this is time and effort wasted that could have been spent strengthening the plants for their eventual flowering stage.

Also, the reason this happened outside is likely because the plants weren't receiving more than 12 hours of light per day. If you increase their regimen to 18 hours or so with supplemental lighting, you will avoid having them flower prematurely.



SUBJECT: Seeded Buds

FROM: Lisa O.

Good morning from Grand Junction, Colorado! I have an indoor grow, and during a recent harvest I found seeds in one of my ladies. I have eight plants growing at a time, but only one came out that way, with maybe a dozen seeds or more. Also, I haven't had any males in the growroom. So what happened? And can I make those seeds my own and call them what I want? And why would it happen to one plant and not any of the others?

Dear Lisa,

There are several possible reasons why your plant became seeded. One is that pollen from a male cannabis plant found its way into your garden; but it's far more likely that you had a hermaphroditic plant inside your space. Tiny male flowers can emerge from "female" buds without being noticed and release small amounts of pollen in a localized area, resulting in a handful of seeds in a single plant's colas.

As for those seeds, they're almost definitely not going to produce anything you'll really want to smoke. "Feminized" plants

ARIZER

BETTER BY DESIGN



AVAILABLE AT



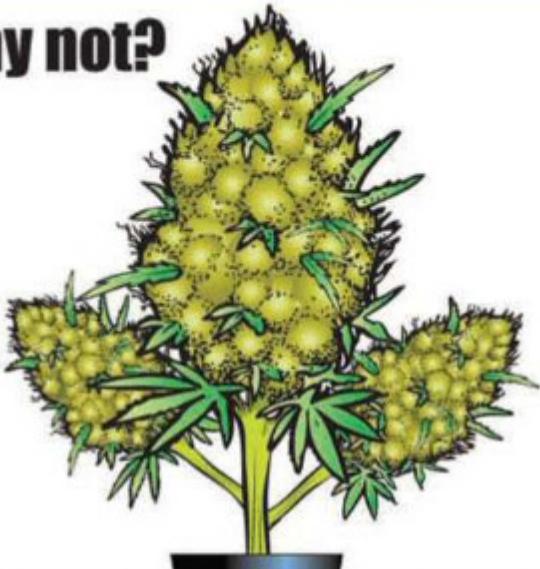
WWW.VAPORNATION.COM
YOUR VAPORIZER SUPERSTORE

Why?



not so serious

Why not?



Get Serious

ACQUISITION OF LIVE CANNABIS SEEDS IS ILLEGAL IN THE UNITED STATES PAYABLE IN US DOLLARS FROM ANYWHERE IN THE WORLD.

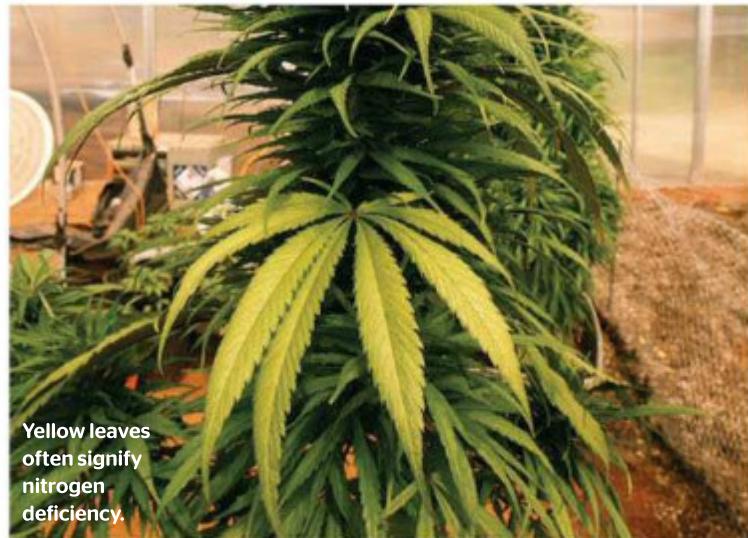
20 years
Since 1994

Serious Seeds

www.seriousseeds.com

Danko Tip: Negative air pressure—i.e., pushing air out more strongly than you're pumping it in—will keep odors from seeping out of the grow space.

that turn out to be hermaphrodites and then “self” themselves will produce half-female and half-hermaphroditic seeds, burdening you with the same problem you had in the first place. It’s better to grow from seeds that have been produced by breeders meant for potency and production.



SUBJECT: Yellow Leaves

FROM: Hybrid Sean

My first indoor grow of Purple Kush is three weeks old today. Everything, including the transplant, went great. I started with a neutral soil, and when I transplanted into a new 5-gallon bucket, I layered the container: The bottom layer was FoxFarm Ocean Forest; the middle layer was a mix of FoxFarm and the original soil; and for the top layer (as well as in and around the transplant hole), I used the original soil.

My problem is that the plant’s two round leaves (the first ones from the ground) are now yellow, wilting and dying, and the next set of actual marijuana-looking leaves are getting yellow at the tips. I haven’t used any nutrients yet. My research tells me that it’s either a nutrient deficiency, or that maybe the roots are just now reaching the FoxFarm layer (one week since transplant) and are in shock from the hot soil. Is this normal? It is critical that I get this right, since if it’s nutrient toxicity or nutrient burn, I surely don’t want to add nutes—but if it’s a deficiency, I don’t want to withhold them and stunt the plant’s growth or, even worse, kill it. What should I do? Please, Danko, help me!

PS: I have some 100% organic additives like bat guano, worm castings, kelp, etc., coming in the mail in 10 days. Can I wait?

Dear Sean,

I wouldn’t worry about the two round leaves (known as cotyledon leaves) yellowing, but you should be concerned about the newer serrated leaves showing these signs. If they’re yellowing at the tips and the tips start looking burnt, you’ve overfertilized the plant. If the entire leaf is slowly going yellow, you most likely have either a nitrogen deficiency or a fluctuating pH (the level of acidity or alkalinity in your soil).

My recommendation is to flush your bucket with plain, pH-balanced water. The tub is a safe, clean place to accomplish this task. After the plant is well flushed, start feeding it using a half-strength nutrient formula, and be on the lookout for any new signs of nutrient deficiency or burn. *



Shield N Seal® Bags and Rolls

- Heavy duty, 5 Mil, super thick
- Available in all clear, black+clear, metallic, all black (blocks out all light)
- Numerous sizes
- Trim to the exact size you need



Shield Sealer® Vacuum Sealer 600

- Seals up to 11 inches wide
- Heavy duty commercial grade
- Powerful seal



Shield Sealer® Vacuum Sealer 700

- Seals up to 15 inches wide
- Heavy duty commercial grade
- Powerful seal
- Adjustable vacuum and seal time
- Marinate mode

Shield Sealer® Vacuum Sealer
Pro Series 750 coming soon!

**Protect,
preserve,
store,
and ship
your
harvest
with
the best**

**SHIELD N SEAL
Shield Sealer**

THE PREMIERE VACUUM SEALING SYSTEM®

Seal in freshness, lock out moisture and air. The original developer of products for the hydroponic and grow industry—our Shield Sealer® Vacuum Sealers, bags, and rolls are distinctively tough, exceptionally powerful. www.shieldnseal.com
shieldnseal2@gmail.com | 855.770.7325 | Dealer inquiries welcome.

**The Most Potent
Kratom on
Earth**



**Fast, Fresh and
Direct from
SE Asia**



Questions? Call us!
800-819-1202

(not for human consumption)

2 Day Delivery
Guaranteed

www.ASIANKRATOM.com

COLLEGE
made for you.



\$20 /MONTH MEDICAL MARIJUANA UNITED **6** CERTIFICATES

GET EDUCATED FOR MARIJUANA JOBS IN YOUR STATE.
REGISTER ONLINE OR CALL TODAY!
WWW.MEDICALMARIJUANAUNITED.COM
CALL: (888) 510-5524

AS SEEN ON: NBC NEWS CNN USA TODAY

Rooster Apparatus

The Original, Patented Fritted Disc For Smokers!



Laboratory Proven: Safer Smoke

www.roosterapparatus.com

Vendor inquiries welcome.



Miss November: **Ashleen Lewis**

Cannabis enhances all facets of this New York activist's life.

To enter the Miss High Times competition, visit: bit.ly/missHT



Ashleen tokes up at the Chapel of Sacred Mirrors.

Ashleen Lewis walks across the expanse of greenery that's at the Chapel of Sacred Mirrors, the art sanctuary and interfaith church founded by artists Alex and Allyson Grey. It's a quiet oasis in Wappinger, NY, about 80 miles north of New York City.

Ashleen, born and raised in the Poughkeepsie area, calls it one of her favorite places. "It's a representation of freedom," she says. "Nowadays, we think we're free, but there are so many stipulations, so many rules. Here, you can experience real freedom."

As she walks, Ashleen limps slightly, the result of a severe car accident last winter. As a member of NORML, Ashleen is involved in the efforts to legalize marijuana in New York, where

she learned that the best way to get young people involved in politics is through cannabis law reform. Now, her activism has a new dimension.

"When I took the prescribed pharmaceuticals after the accident, I hated the feeling," Ashleen says. "I was totally detached. I want to be engaged with my life. So I turned to cannabis for my medication."

She wants others to benefit, too. "For me, cannabis is about being spiritual, about being positive and keeping my mind at peace."

Ashleen is a licensed Reiki and crystal healer. "I'm 23," she says. "There are so many paths ahead of me. I guess that's the fun of being young." 

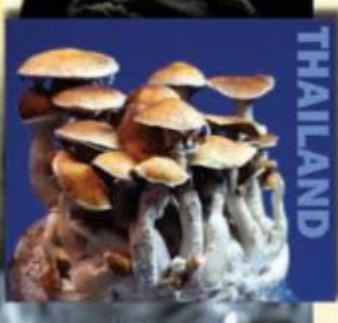
CELEBRATING 40 YEARS

HOMESTEAD
BOOK COMPANY

The Easiest way to grow your own mushrooms

www.homesteadbook.com

**5LBS of
Compost Which
Equals 60%
MORE
SHROOMS**



EZ GRO MUSHROOMKIT

P.O Box 17444, Seattle, WA 98127

BUY YOURS TODAY !!
EZ Grow Mushroomkit
Just \$135
(price includes shipping)

The EZ Gro Mushroomkit

**Includes everything you
need:**

- Psilocybe Cubensis spores
- Grain bag
- Our world famous blend of Kow-A-Nite Compost in its own filtered growbag.

Only TWO EASY steps

1. Mix the grain and Psilocybe Cubensis spores together without ever having to open the sterilized bag.
2. Once the grain has been colonized, mix it with the bag of compost.

That's all there is to it!

- Put the kit in a warm place
- Wait a couple of weeks for your mushrooms to start growing.
- No need to water it or even look at it.
- Just go away and leave it alone
- The mushrooms grow automatically.

It's that simple!

We include:

- Complete instructions with color photos

PLUS:

- A free DVD shows everything you need to know
- Awesome videos of mushroom farms in Holland

For more photos visit www.Facebook.com/HomesteadBookCompany • Order Toll Free TODAY at 800-426-6777

EZ Gro MushroomKit. \$135

2-step grow-it-yourself kit includes Psilocybe cubensis spores and shipping. Sorry, not sold outside the USA.

The Mushroom Cultivator \$40

The biggest and best book ever published on growing mushrooms, 400 pages, color photos.

**Order Toll-Free at 800-426-6777 or online at
www.homesteadbook.com/mushroomkit or mail a check
or money order to PO Box 17444, Seattle WA 98127.**

Checks take longer to process than money orders. Sorry, no COD.

Name _____

Address _____ Apt. _____

City _____ State _____ Zip _____

Email (optional) _____

Washington State residents please add 9.5% sales tax. Total Enclosed _____

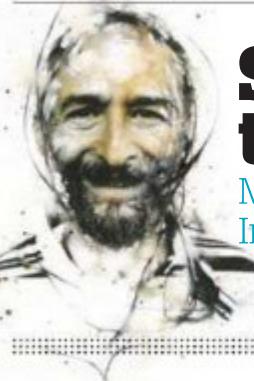
QUESTIONS? PHONE 206-782-4532 OR EMAIL [HOMESTEADBOOK@GMAIL.COM](mailto:homesteadbook@gmail.com)

Check out the
Wo/Men's Alliance for Medical Marijuana
wamm.org



- Often imitated, but never duplicated!
- WAMM is California's first medical marijuana collective
- Compassionate care within a supportive community
- Accepting new members NOW!
- Find WAMM on Facebook

Call 831.425.0580 for more info, or write at
309 Cedar St. #39, Santa Cruz, CA. 95060



Smoking Out the Facts

Media fails, tobacco and pot, Internet searches, and OG Kush.

Got a question for Dr. Mitch? Email him at 420research@gmail.com.

According to my brother, new research proves that medical marijuana really isn't any good. *Help!*

I.Needmymeds

Hi I.N.,

A review in the *Journal of the American Medical Association* addressed medicinal cannabinoids and found that some ailments respond well to them and others poorly. But here's the catch: The research under review was overwhelmingly about *synthetic* THC (such as Marinol) and THC-like drugs; only two of the studies looked at actual cannabis. So the conclusions don't really apply to medical marijuana—and, needless to say, nobody has claimed that pot is a cure for *everything*. Unfortunately, the media jumped to the wrong conclusions and ended up botching the message.

Can our beloved plant protect me from cigarette smoke?

Nick O'Teen

Hi Nick,

A team of researchers, including investigators from California and Colorado, found that folks who used both the plant and tobacco were less likely to develop emphysema than those who smoked tobacco alone. However, the effect was very, very small: Essentially, cannabis made developing emphysema 2 percent less likely. So tobacco smokers shouldn't count on cannabis to protect them (and cannabis users should always remember that the vaporizer is your friend).

Not to sound paranoid, but can your Internet searches reveal if you're using marijuana?

Miss Trust

Hi Miss T.,

A recent article examined Google Trends data for searches about marijuana and related terms. At the state level, these searches correlated significantly with cannabis use: higher in states where more people reported use, and lower in states with less use. I can't say for sure about individual IP addresses, but my opinion would definitely sound paranoid.



Where does a name like "OG Kush" come from?

Woody "Ink" Slinger

Hi Woody,

The marketing instincts of cannabis growers are astounding! Despite the obvious "original gangster" allusion, "OG" purportedly stands for "ocean-grown," implying stellar quality, while "Kush" likely refers to the Hindu Kush mountains, probable home of the first *indica* plants. 🌿

*Dr. Mitch Earleywine is a professor of psychology at SUNY Albany and the author of *Understanding Marijuana* and *The Parents' Guide to Marijuana*.*

SUPERCLOSET

2015 "BEST OVERALL SYSTEMS"

SUPERCLOSET is the **ONLY** Fully Automated LED Grow Cabinet that has the following:

KIND LED
GROW LIGHTS

WINNER
2014

WINNER
2015

This revolutionary series of LED grow lights will produce the biggest and best yields, while consuming approximately half the electricity and producing virtually no heat.

15 Side Lights
The perfect cool spectrum supplement to your overhead KIND LED GROW light.

Up to 40% Bigger Yields
Exclusive Adjustable Net Trellis and Larger "Easy Access" Flower Chamber

Superponics 3.0 Hydroponic System
Flower 1-16 plants up to 5x Faster and Easier with Superponics

Continual Harvest Rotation
Adjustable Vegetation Chamber can be raised, lowered, or removed

Comes with **EVERYTHING** you need, including your Nutrients, DVD, Ph Kit, TDS Pen and More

COMES FREE WITH 9 EPISODE **SuperPro! TUTORIAL GROW SERIES!**
SUPERCLOSET.COM

PH 877. 476 . 9787

Tamisum Extractors Inc.

The **FIRST** and **ONLY** Safe Food Grade, HVAC Pump Free, Butane Extractor

No Air Conditioner Pumps Required when making your medicine. Designed to be pump free. Lower Cost Pump Versions offered for states that have not yet disallowed HVAC pumps to make consumables.

- Dewax (Delipidate) and clean your extracts without Dry Ice.
- Extracts waxes, oils, polar and non polar compounds.
- Target or Avoid any compound to create anything.
- Low Pressure Low Temp Easiest Safest System.
- Extract process isolated from Solvent Recovery Process NO LOOPING DECESSARY
- Fastest Extraction, SILENT Operation
- Lowest Cost Operation, Highest Yields. Safest System!
- Nationally State Certified Safe.
- 10 models to choose from.

Immediate Shipping, Lifetime Warranty, FREE Support, Illustrated Manual

Pump Free TE3000
2 lbs 2 hrs

Pump Free TE700
1/2 lb 1 hr

Use Coupon Code
HTCB

Learn More (817) 726 7525
tamisumextractors.com | david@tamisumextractors.com

QUENCH

Quenches the thirsties

QUENCH GUM

Check out all our mouth-watering flavors and more at QuenchGum.Com

TOKER POKER
Poke it. Pack it. Puff it. Pass it.

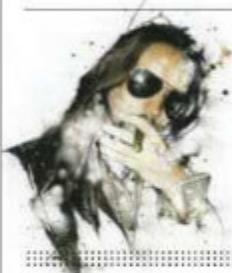
All-inclusive SMOKING TOOL!

- Ergonomic LIGHTER SLEEVE
- Securely Holds 5 Feet of HEMP WICK
- Stainless Steel TAMPER
- Fold-in Stainless Steel POKER

So simple. So necessary. So overdue.

TokerPoker.com | 303-304-9354

Patent Pending © Lifted Limited Inc. All rights reserved.



Hats Off to LK

Saying goodbye to a fellow freedom fighter and dear friend.

With his flamboyant shirts, pin-decked derby and jovial disposition, there were few in the cannabis community as universally beloved as Oregon activist Larry Kirk—known affectionately to his friends simply as “LK.”

A lifelong advocate of marijuana legalization, Larry was a proud supporter of NORML and a personal friend of Keith Stroup and the late Jack Herer. He was also an annual fixture at both the Seattle Hempfest and Portland’s Hempstalk festival (where they even named a stage after him), and served as the grand marshal at the Portland Global Cannabis March in 2015. An Army veteran, LK followed in the footsteps of one of his idols, fellow Oregonian Dr. Phillip Leveque—a distinguished forefather of today’s medical marijuana activism by vets—helping to establish a veterans’ night at the World Famous Cannabis Café, and spearheading Veterans for Measure 80 to mobilize support for the state’s 2012 legalization bill.

When it came to *High Times*, you couldn’t find a more devoted fan: Larry sang our praises every chance he got, judged seven of our Cannabis Cups and attended many more—always arriving bearing gifts and wine for the HT crew and his fellow judges.

Wearing several hats (a derby, a fedora, a baseball cap...), LK was also a talented photographer, guitarist and singer, as well as an aspiring music promoter who represented several rock and hip-hop artists from Portland, most notably Justin James Bridges—a soulful singer/guitarist recovering from a spinal injury, with whom Larry felt a deep kinship.



Larry leading the Global Cannabis March in Portland, May 2015

It was last August in Portland, at a party in the home of our friends Madeline and Senior Martinez, that LK gave us the bad news: His lung cancer had advanced to Stage IV, spreading into his bones and manifesting as a tumor pressing on his spine. Despite radiation therapy and the Rick Simpson Oil regimen, his doctors didn’t expect him to survive the year. But Larry did survive it—and lasted well into the next.

With his medical bills taking their toll, LK’s family created a GoFundMe.com page to help him live out his short bucket list: to visit the pyramids of Mexico City and

judge the Cannabis Cup in Amsterdam one last time. Thanks to many generous donations, and despite severe and constant pain (which only the RSO could ease), Larry not only made it to Amsterdam, but to the Cup in San Bernardino the following February. As it turned out, that would be the last time we’d ever see him: LK passed away on the evening of June 18—just two weeks before the legalization law that he’d fought for went into effect in his home state of Oregon.

Though I can’t recall exactly when and where we first met (I suspect it may have been in Amsterdam in 2011), I felt as though I’d known LK for decades. He was a kind and compassionate soul, bursting with joy, humor and positivity. He will be remembered with great fondness and admiration by his fellow stoners and activists across the country, and will forever be a member of the *High Times* family.

Fare thee well, LK... and say “high” to Jack for me. *

You can donate to LK’s family at www.gofundme.com/h0wl3k.

CANNABIS CUP WINNING NUTRIENTS

It's not that we enjoy bragging, however the fact of the matter is there are no awards or categories for best nutrient companies at the major growing competitions. And because there's no award, and it's something we are proud of, we want to share this little-known fact with you...

Advanced Nutrients has been used to repeatedly win every single major grow competition in the world, and in all categories. Best Hybrid, Indica, and Sativa. Best Hash and Concentrates. Plus, seed companies Barneys, Big Buddha, and Rare Dankness (to name just a few) use Advanced Nutrients to grow their award-winning seed crops.

Here's a list of some of our wins:

- High Times® Cannabis Cup®
- High Times Medical Cannabis Cup Los Angeles
- High Times Medical Cannabis Cup San Francisco
- High Times US Cannabis Cup Denver
- High Times US Cannabis Cup Seattle
- Kush Cup
- Spannabis
- 43th Annual Hash Bash
- Hempcon
- Highway 420 Anti-Prohibition Rally
- Expocannabis Sur
- Cannabizz
- Nimbin MardiGrass
- Global Marijuana March
- Emerald Empire Hempfest
- Olympia Hempfest
- Hanfparade
- Seattle Hempfest
- Cannatrade
- Expogrow
- Boston Freedom Rally
- Cultiva Hanfmesse
- Cannafest
- Treating Yourself Expo
- Secret Cup
- Growmed
- 707 Cup
- 16th Annual Medical Marijuana Benefit Concert

"I would not be where I am today—as far as quality—if it wouldn't have been for Advanced—honestly"

— Mr. Spliff of TGA Seeds, High Times Medical Cannabis Cup WINNERS

"I tried many other brands and they never won a cup for me until I started using Advanced Nutrients. Now I rely on their entire line to win cup after cup"

— Rocky, Champs Cup WINNER

CAUGHT ON CAMERA:

See not one, not two, not three, but FOUR different Cannabis Cup WINNERS praise Advanced Nutrients and share their favorite products in this "behind the scenes" video from Los Angeles High Times Medical Cup 2013:

ChampionGrowersUseAdvanced.com



Ask your local hydroponic retailer
about what Advanced Nutrients
can do for your garden today!

*HIGH TIMES® "CANNABIS CUP" and the CANNABIS CUP itself are registered trademarks used under license from "Trans-High Corporation."

 **Advanced Nutrients**
Raising the Bud Weights... and Reputations... of Top Growers



New Data, New Resolve

Examining the constituents of America's "marijuana middle"—and why they matter

Allen St. Pierre is executive director of NORML. Visit norml.org.

Elected policymakers and activists should take heed: The nonpartisan advocacy group Third Way recently published a set of surveys focused on marijuana-law reform. The surveys revealed in great detail who does (and who doesn't) support the end of pot prohibition, as well as what some of the possible winning (and losing) campaign narratives are for reformers.

A majority of Americans now supports ending pot prohibition when, according to government surveys, only 14 percent of the population uses pot.

The surveys found that over 50 percent of the American public supports legalizing cannabis. Not surprisingly, Democrats are heavily in favor, with 87 percent supporting medical marijuana and 64 percent backing recreational use. Seventy-eight percent also support "safe haven" legislation, with 53 percent strongly backing such measures. (Safe-haven legislation would protect states that have legalized marijuana from reprisals by the federal government.)

Republicans, for their part, overwhelmingly support medical use (68 percent) but not recreational use (32 percent). However, a solid majority (54 percent) supports safe-haven legislation, and nearly a quarter of those people support it even if they personally oppose legalizing recreational use.

Thus, the conventional notion of an out-of-touch, pro-Drug War GOP is quickly becoming outdated, at least at the party's grassroots level; these days, most Republicans are either pro-legalization or squarely in the "marijuana middle."

Among independents, half favor legalizing both medical and recreational use, with another 27 percent supporting medical use only. A full 74 percent support

safe-haven legislation, with 47 percent expressing strong support.

Interestingly, men are more pro-legalization than women: 52 percent of men support legalizing both medical marijuana and recreational use, compared to 45 percent for women.

Third Way's report also proposed five main points that reform advocates should keep in mind when trying to persuade the marijuana middle:

- 1) *"Medical marijuana opens the conversation, but it doesn't close the sale."*
- 2) *"Decrying the War on Drugs has limited appeal."*
- 3) *"Don't overhype the risk of prosecution."*

4) *"Voters believe states are responsible actors on marijuana."*

5) *"Banking messages work [i.e., arguments concerning the unfair banking laws faced by cannabusinesses]—but only after a long explanation."*

Third Way's cogent analysis concludes: "As opponents lean heavily into values-based arguments regarding teenage marijuana use and highway safety, more research still needs to be done to identify a compelling value for legalizing recreational marijuana—the way that compassion underlies support for medical marijuana. But ... we do now know significantly more about the marijuana middle—a group that recognizes the conflict between state and federal marijuana policy and the need to resolve it. A supermajority of Americans believe that federal policymakers have a role to play in this discussion, and that they should act to provide a safe haven from federal law for states that have already legalized marijuana and are acting responsibly to strictly regulate it."

This analysis helps explain why a majority of Americans now supports ending pot prohibition when, according to government surveys, only 14 percent of the population uses pot. The political fulcrum has decidedly shifted in our favor—at long last. Now we need to embrace this moment wisely. 

FREEDOM FIGHTER

Hoosier Hero

Indiana's Chris Thompson organizes the heartland.

Chris Thompson grew up on a steady diet of misinformation from anti-marijuana groups like DARE and the Partnership for Drug-Free Kids. But soon he discovered that the War on Drugs was based solely on political propaganda and lacked any scientific backing.

Chris took action by forming

several NORML chapters across Indiana—organizing informational meetings, hosting public demonstrations and building a network of grassroots volunteers, while maintaining positive relationships with his state and local representatives.

Chris currently serves as the executive director of Purdue NORML and also sits on the board of Indiana NORML. In addition to his activism

reforming the Hoosier State's marijuana laws, he is majoring in biological engineering at Purdue University.

Most recently, Chris accepted a position as an intern with national NORML, working out of the organization's Denver office to help form new chapters, implement more efficient systems, provide extra support to existing chapters, and promote legalization efforts throughout the

By Kevin Mahmalji, NORML national outreach coordinator



country. Chris is tireless when it comes to ending the federal government's misguided war on this useful plant—and on our personal freedoms as well.

"When I first started researching cannabis legalization," Chris says, "I was actually completely against it. But the more I researched and learned, the more I realized that I had been lied to about cannabis all of my life. I also found my passion for a career in legalization."

DON'T LET YOUR JOB GO UP IN SMOKE!



The Finest
Strap-On
Urinating
Device
Available!

only
\$89.95!

The World's
Best Selling
"Urine
Substitution
Kit!"



The Most
Discreetly
Concealed
Bottle!



only
\$24.95!

only
\$39.95!



• SAME DAY SHIPPING
• ALL MAJOR CREDIT CARDS ACCEPTED
• BEST PRODUCT! CHEAPEST PRICE!
• SATISFACTION GUARANTEED!

1-800-936-1070
SERIOUSMONKEYBIZZ.COM

ALWAYS EVOLVING
**SERIOUS
MONKEY
BIZZNESS™**





STURDY-BUILT



Uni - FLOW



WWW.WESTCOASTGROWERS.COM
TOLL FREE 888 924-4769



Marijuana is **SAFER**
than Alcohol.
Isn't it time we treat
it that way?

The organization that **legalized**
marijuana in Denver needs your
help. Please contact us to get
involved on your campus or in your
area today! **Take action now.**

(303) 861-0033 mail@saferchoice.org

www.SAFERchoice.org

**THE 1 SIMPLE TRICK
FOR IMPROVING YIELDS**

& QUALITY SIGNIFICANTLY
WITH NO EFFORT REQUIRED!

**5% OFF USE COUPON
CODE: HTMS**



MEDICAL MARIJUANA DIRECTORY

Need New ID?

Our Books Help You Get...

NEW IDENTITY with government-issued SSN,

Birth certificates, Driver's license, Photo ID,

NEW CREDIT with clean credit file, Personal

Loans, Business Financing, "Free Money"

ID by MAIL & INTERNET. Over 500 sources.

All kinds of photo ID, certificates, diplomas.

FREE CATALOG

1-800-338-8484 www.EdenPress.com

EDEN PRESS

PO Box 8410, Fountain Valley, CA 92728



CLONEMASTER BUDGROWER

The All-In-One Grower!
Clones hundreds of cuttings at a time!
Grows veg. cycle & flowers buds!
Only \$99.00 + \$10 shipping

You can also order online at: WWW.CLONEMASTERBUDGROWER.COM

To order, mail your check to:
CLONEMASTER
P.O. Box 780
Dana Point, CA 92220

Please make checks payable to Clonemaster
Or call 949.510.3975



SMOKE WEED? YOU NEED...

HARDNESS \$19.95 **SEmen VOLUME** \$19.95

WWW.VIGORLABS.COM
1-(888) 698-6603



Special Digital Collector's Issue!
THE BEST OF HIGH TIMES
The First 100 Columns Collected Into One Awesome Anthology!

TO ORDER GO TO hightimes.com/infamous100

2004-2013

CALIFORNIA

Alternate Natural Solutions Inc.

8477 Enterprise Dr.
Jamestown, CA 95327
(209) 352-6779

altnatsol.com
"Home of the 5 dollar gram"

Club Cannex

11004 Magnolia Ave.
Garden Grove, CA 92843
Phone: 562-200-1164
www.clubcannex.org
rudy@clubcannex.org
Compassionate, Understanding,
Servicing,

Honoring, Inspirational, Passionate

Coffee Shop Blue Sky

377 17th Street
Oakland, CA 94612
(510) 251-0690
Open 9am-8pm Mon-Sat,
10am-6pm Sunday
oaksterdamgiftshop.com

The Good Life

4316 Melrose Avenue
Los Angeles, CA 90029
(323) 522-3542
Open 7 days, 10AM-11PM
facebook.com/goodlifemelrose
Twitter Good Life Melrose
Also fresh fruits and vegetables.

Green Dragon Caregivers

7423 Van Nuys Blvd. Suite C
VanNuys, CA 91405
(818) 442-0054
greendragoncoop.com
edward@greendragoncoop.com

High Quiggle Healing Center

1532 East Broadway
Long Beach, CA 90802
Phone: (562) 951-3975
Fax: (562) 951-3902
weedmaps.com
"A circle of healing is never
ending"

Love Shack

502 14th street
San Francisco, CA
(415) 552-5121
theloveshackcooperative.com
Mon-Sat 10am-7pm,
Sun 11am-4pm
Full Service Dispensary
Voted Best of The Bay

**Mind, Body, and Soul
Collective**

3131 East Central Ave.
Fresno, CA 93725
Phone: (559)-486-6010
Fax: (559)-486-6011
mbscollective.com
admin@mbscollective.com
"Open 7 days a week--Quality,
Integrity, Trust"

1 Love Wellness Center

1841 El Camino Ave.
Sacramento, CA 95815
916-231-LOVE
916-927-1553 (fax)
1lovewellness.org
linda@1lovewellness.org
"Sacramento's largest and loving
Wellness Center"

7 Star Meds

3823 San Pablo Dam Rd.
El Sobrante, CA, 94803
(510) 758-MEDS(6337)

COLORADO

**Caregivers For Life / 21+
Recreational & Medical
Marijuana Center**

310 Saint Paul St.
Denver, CO 80206
(720) 536-5462
Cherry Creek, Denver, CO

Karmaceuticals LLC

4 South Santa Fe Drive
Denver, CO 80223
(303)-765-2762
facebook.com/karmaceuticals
karmaceuticalsco@gmail.com
"Over 120 strains of fire"

**Minturn Medicinal /
Vail Valley**

Minturn, CO 81645
(720) 490-0458
Free Delivery
minturnmedicinal.com

MICHIGAN

Arborside Compassion

1818 Packard Street
Ann Arbor, MI 48104
734.213.1421
arborside.net
"Compassion is our middle name."
Largest Selection of Quality
Medicine in Michigan!

Canoisseur Collective

"A Shelf Above The Rest"
State St (call for pre-verification &
address)
Ann Arbor, MI
734-494-0772
cannoisseurcollective.com
Twitter.com/Cannoisseurlife

**Lakeshore Alternatives Seed
Bank**

6155 Blue Star Highway
Saugatuck, MI 49453
269-857-1188
lakeshoremeds@gmail.com
lakeshorealternatives.com
"West Michigan's #1 Place for
finding SEEDS"

Michigan Compassion Center

1222 Glenwood Ave.
Flint, MI 48503
970-509-0781 (Phone number)
810-265-7821 (office number)
810-265-7436 (fax number)
mcccflint@gmail.com
facebook.com/michigancompassioncenter
"Patients Come First"

**Michigan Medical Marijuana
Certification Center**

29877 Telegraph Road,
Suite 303 B
Southfield, MI 48034
(248) 932-6400
MMCC.net

MSC3

227 N. Winter Street Ste 302
Adrian, MI 49221
medicinalsolutions.com
MON-FRI 10am-8pm
SAT 10am-7pm
CLOSED SUNDAYS

OM of Medicine

112 South Main Street,
3rd Floor
Ann Arbor, MI 48104
734-369-8255
omofmedicine.org
info@omofmedicine.org
"Power to the Patients!"

**Pure West
Compassion Club**

840 N. Black River Dr. Ste #80
Holland, MI 49424
616-466-4204
purewestclub@gmail.com
CALL TODAY & Get Doctor
Certified for \$99

MONTANA

Olympus Incendias

2591 Industry #A
Missoula, MT 59808
Phone: (406) 829-WEED
www.missoulameds.com
Customer oriented true
Compassion Center!

OREGON

Eugene Compassion Center

2055 W. 12th Ave
Eugene, OR 97402
(541) 484-6558

WASHINGTON

**Conscious Care Cooperative
Lake City**

3215 NE 123rd St.
Seattle, WA 98125
Lakecity@cccooperative.org
[https://mmjmenu.com/](https://mmjmenu.com/dispensaries/757-conscious-care-cooperative-lake-city)
Phone: (206) 466-1206
Fax: (206) 466-1203

**Purple Cross Patient
Care Association**

469 North 36th Street, Suite D
Seattle, WA 98103
Phone: (425) 446-1205
Fax: (206) 588-1596
purplecrosspatientcare.org
Mon-Sat, 11-9 pm Sun, 1-9 pm
Open 7 days a week!

CANADA

Note: Canadian medical clubs rarely accept US medical marijuana IDs. Prior arrangements need to be made before your visit by contacting the medical club.

CALM Toronto

P.O. Box 47023, Stn. 425
220 Yonge St.
Toronto, ON m5b 2P1
Office: (416) 367-3459
Fax: (416) 367-4679
Open 7 days a week
cannabisclub.ca

**Canadian Compassion
Dispensary**

US patients welcome.
Phone: 647-771-9703
Toronto, ON
www.c-disp.com

TAGGS Dispensary

11696 224th Street
Maple Ridge, BC V2X-6A2
Phone: (604)-477-0557
Fax: (604)-477-0575
Open 7 days/week, 11am-7pm
taggsdispensary.ca
US medical patients welcome.

DISPENSARY SERVICES

Cannaline

cannaline.com
Wholesale only
301-356-9096
Stock & custom printed
glass containers, concentrate
containers & medicine bags.

To advertise in this section, call John McCooe at (212) 387-0500, ext. 204

**NOW
BIGGER
THAN EVER!**

- 6'5" tall, 6'5" wide, 4'3" deep.
- 181 cubic ft. - SIZE does matter.
- Harvest 50 mature plants.
- Size for 700+ clones!
- Yields up to 5 to 7 pounds every 10 to 12 weeks!
- More room = bigger harvests.
- Feeding & Lighting schedule / Lifetime support.



STARTING AT **\$4399.90** AS SHOWN **\$5399.90**



AS SHOWN **\$5399.90**

**CALL YOUR HYDROPOONICS GROUP
REPRESENTATIVE AND GET STARTED TODAY!**

www.HydroponicsGroup.com

800-850-6360

**HYDROPOONICS GROUP IS
COMING UP FOR SALE!**

- Sexy modular design makes install easy.
- Tallest and deepest systems on the market.
- High output 5W per diode adjustable LED systems.
- Your choice: One-touch self-watering soil or Hydro system.
- Raptor Odor Controller = odor-free gardening.
- CO₂ available for all systems powered by **THE GREEN PAD CO₂ GENERATOR**

HG

MADE IN CALIFORNIA

Harvest EXCEL™
The Leader In Light Dep Technology

HXL BLACKOUT TARP

Making light dep a one man job

**GOLDEN ARM™
TARP PULLER**

See the video on www.HarvestExcel.com
Please Call 707-986-4430

CREATED IN HUMBOLDT COUNTY



www.drgreenthumb.com

Unique, high-potency genetics, available nowhere else. Home of the super-potent Endless Sky Other fine strains include; Bubba Kush, Trainwreck C99, Sour Diesel, Iranian Autoflower, Headband U.K. Cheese, Chemdawg, Bubba OG, G13, OG Kush

ALL OF OUR FEMINIZED SEEDS ARE GUARANTEED 100% FEMALE.

\$25 off Blue Dream 10 pack

For Grow Journals, click links on "Ordering Info" page at website.

For a catalog, including a \$10 off coupon, send \$5 to; RWJ, Box 37007, Ottawa, ON, K1V0H9, Canada Information or garden support call; 613-330-2404

**Free World-wide Shipping including U.S.A.
"best stealth shipping in the business"**

Trusted Since 1996

HIGH TIMES LEGAL DIRECTORY

ARIZONA

Jamal Allen

Allen & Associates, Lawyers
1811 S. Alma School Rd, Ste 145
Mesa, AZ 85210
Ph: 480-899-1025
Fax: 480-248-6389
goodazlawyers.com
All Stops, Arrests & Seizures

Trinity and other Northern California counties on request.
jmk-law.com

A. Sam Jubran, Esquire

The Law Office of A. Sam Jubran, P.A.
Board Certified Marital & Family Law
871 Cassat Avenue
Jacksonville, FL 32205
(904) 360-6100
www.law4jax.com

CALIFORNIA

Bob Boyd

107 W. Perkins Street, Ste #17
Ukiah, CA 95482
707-468-0500
mendocinolaw@comcast.net
mendocinolaw.com

1800420laws.com
margolinlawoffices.com
Marijuana and criminal defense since 1967. Director, L.A. NORML. Call for a free guide to marijuana laws in all 50 states.

Eric Shevin

NORML Legal Committee
Lifetime Member
15260 Ventura Blvd., Ste 1400
Sherman Oaks, CA 91403
Phone: 818-784-2700
Fax: 818-784-2411
eshevin@gmail.com
shevinlaw.com
Cannabis expertise, criminal defense and business formation.

COLORADO

Lenny Frielings

1942 Broadway #314
Boulder, Colorado 80302-5233
Ph: 303-666-4064 (cell and landline 24/7)
www.LFrielings.com
LFrielings@LFrielings.com
38 yrs. criminal defense, NORML Legal Committee Life Member; Board Member Emeritus Colorado NORML

Sean T. McAllister, Esq.

McAllister Law Office, P.C.
Criminal Defense/Dispensary Representation
Offices in Denver & Summit County

Ph: 720-722-0048
www.mcallisterlawoffice.com

Law Offices of John M. Kucera

1416 West Street
Redding, CA 96001
530-241-1800
jkucera@snowcrest.net
Former major grow prosecutor.
Over 30 years of aggressive and experienced state and federal defense. Serving Shasta, Siskiyou, Tehama,

FLORIDA

James Davis

Law Office of James Davis, P.A.
300 West Adams St, Ste 550
Jacksonville, FL 32202
Office: 904.358.0420
Fax: 904.353.1359
Criminal defense focusing on drug cases.

ILLINOIS

Jeffrey B. Fawell

Fawell & Associates
500 S. Country Farm Rd,
Ste 200 Wheaton, IL 60187
630-665-9300
fawell@fawell.com
Criminal, DUI, traffic, and immigration defense.

INDIANA

Stephen W. Dillon

Dillon Law Office
3601 N. Pennsylvania St.
Indianapolis, IN 46205
317-923-9391
steve@dillonlawindy.com
stevedillonlaw.com
Chair, NORML Board of Directors.

KANSAS

Justin A. Barrett

Barrett Law Firm, P.A.
280 N. Court
Colby, KS 67701
Ph: (785) 460-0188
Fax: (785) 460-9817
jbarrett@st-tel.net

William (Billy) K. Rork

1321 SW Topeka Blvd.
Topeka, KS 66612-1816
785-235-1650
rork@rorklaw.com
rorklaw.com
Zealous and successful drug defenses on I-70/I-35 vehicle stops.

MARYLAND

David E. Kindermann, Esq.

15 West Montgomery Ave,
Suite 300
Rockville, MD 20850
Tel: 301-762-7900 — 24/7
Fax: 301-309-0887
kindermannlaw.com
dave@kindermannlaw.com
Licensed in Maryland, D.C. and Federal Courts incl. U.S. Supreme Court.

MASSACHUSETTS

Norman S. Zalkind

Zalkind, Duncan & Bernstein LLP
65A Atlantic Ave.
Boston, MA 02110
Phone: 617-742-6020
Fax: 617-742-3269
nzalkind@zalkindlaw.com

MICHIGAN

Matthew R. Abel

Cannabis Counsel PLC
2930 Jefferson Avenue East
Detroit, MI 48207
313-446-2235
attorneyabel@me.com
cannabiscounsel.com
Executive Director of MINORML. NORML Legal Committee Lifetime Member. Specializing in cannabis cases and cannabusiness law.

Jason Barrix

Attorney at Law
Barrix Law Firm PC
2627 E. Beltline Ave SE,
Suite 310B
Grand Rapids, MI 49546-593
Call 24/7 Service
1-877-NO-4-Jail /
1-877-664-5245
Fax: 1-888-337-1308
barrixlaw.com
Criminal Defense Focusing on Drug, DUI, License and Injury Cases. "Winning Cases Statewide since 1993"

Daniel Grow

Daniel Grow, PLLC
800 Ship Street, Suite 110
Saint Joseph, MI 49085
Office: (800) 971-8420
Fax: (269) 743-6117

Michael A. McInerney, Esq.

Michael A. McInerney, PLC
312 E. Fulton
Grand Rapids, MI 49503
(616) 776-0200 (24 hrs)
mamgrlaw@gmail.com
Defending your rights!
Medical Marijuana Issues
Civil/Criminal Trial Attorney
All Michigan Courts

Barton W. Morris, Jr.

520 N. Main Street
Royal Oak, MI 48067
(248) 541-2600
www.michigan-marijuana-lawyer.com
Award Winning Criminal Defense Super Lawyer and Certified Forensic Lawyer-Scientist.

Lifetime NORML Legal Committee Member Specializing in Defending DUID and Marijuana Related Cases in Federal and State Courts

THE HOLE TRUTH

Eleven Pen's unique fresh air intake
delivers effortless hits every time

Free extra heater with purchase of an **Eleven Pen**
Use coupon code: **VB11HT**



VAPORBROTHERS[®]
.COM/VB11

DEMAND QUALITY FLAVORS



www.eblunt.com

DEMAND

E  **BLUNT**
FLAVORED VAPES

 @EBluntVapes

Delicious Flavors
Wholesale
Distribution Licensing

HIGH TIMES LEGAL DIRECTORY

MISSOURI

K. Louis Caskey

1102 Grand Blvd, Suite 800
Kansas City, MO 64106
Phone: 816-221-9114
Cell Phone: 816-536-1411
Fax: 816-220-0757
klouie711@aol.com
caskeyatlaw.com

Daniel Dodson

315 Marshall Street
Jefferson City, MO 65101
573-636-9200 or
800-DODSON-1
dd@danieldodson.net
danieldodson.net
Board member, NACDL;
Nationwide advice/referrals.

Dan Viets

15 N. 10th St.
Columbia, MO 65201
573-443-6866
danviets@justice.com
Former president of MO Assoc.
of Criminal Defense Lawyers,
NORML Board Chair.

NEW HAMPSHIRE

Sven Wiberg

Wiberg Law Office
2456 Lafayette Road, Suite 7
Portsmouth, NH, 03801
Phone: 603-686-5454
Fax: 603-457-0332
sven@nhrriminaldefense.
com

NEW JERSEY

Frank T. Luciano, P.C.

147 Main St, Suite #5
Lodi, NJ 07644
Phone: (973) 471-0004
Fax: (973) 471-1244
cdswiz.com
Lifetime member of NORML.
Over 30 years of defending
drug prosecutions. Free book
on drug cases in New Jersey

Neal Wiesner

Wiesner Law Firm
34 East 23rd Street, 6th FL
New York, NY 10010

Tel: 212-732-2225

Fax: 646-678-3532

wiesnerfirm.com

nwiesner@wiesnerfirm.com

NEW MEXICO

David C. Serna

Serna Law Offices

725 Lomas Blvd. NW
Albuquerque, NM 87102

505-242-4057

sernalaw.com

Board-certified criminal-
defense specialist. NORML
lawyer since 1985.

NEW YORK

Robert S. Gershon

Law Office of Robert S.
Gershon

142 Joralemon Street, Ste 5A
Brooklyn, NY 11201
718-625-3977
robertgershon.com
rg@robgershon.com
I help good people in bad
situations.

David C. Holland, Esq.

David C. Holland, P.C.

250 West 57 St., Suite 920
New York, NY 10016
212-935-4500
Licensed in NY, NJ & MD.

Neal Wiesner

Wiesner Law Firm

34 East 23rd Street, 6th FL
New York, NY 10010
Tel: 212-732-2225

Fax: 646-678-3532

wiesnerfirm.com

nwiesner@wiesnerfirm.com

OHIO

Spiros P. Cocoves

Law Offices of Spiros P.

Cocoves

610 Adams St., 2nd Flr
Toledo, OH 43604-1423
419-241-5506

Fax: 419-242-3442

scocoves@gmail.com

Federal/State Criminal

Defense, OH/MI

OKLAHOMA

M. Michael Arnett

Arnett Law Firm
3133 N.W. 63rd Street
Oklahoma City, OK 73116

Tel: (405) 767-0522

Fax: (405) 767-0529

mikearnett1@juno.com

Chad Moody

200 N Harvey Street, Ste. 110
Oklahoma City, ok 73102

Phone: 405-231-4343

Fax: 405 231-0233

thederuglawyer@

thederuglawyer.com

When a Conviction is Not an
Option

OREGON

Joshua C. Gibbs

Reynolds Defense Firm
1512 SW 18th Avenue
Portland, OR 97201
josh@KindLegalDefense.com
www.reynoldsdefensefirm.com
Ph: 541-224-8255

"We represent Kind people"

John C. Lucy IV

2121 SW Broadway, Suite 130
Portland, OR 97201
Phone: 503-227-6000
Other Phone: 919-720-2513
john@law420.com
law420.com
"Medical Marijuana and Drug
Crime Defense Throughout
Oregon"

PENNSYLVANIA

Simon T. Grill

525 Elm Street
Reading, PA 19601
888-333-6016
STG1300@epix.net
Marijuana defense.

SOUTH CAROLINA

Robert E. Ianuario,

M.B.A., J.D.

Attorney & Counselor
1629 East North St.
Greenville, SC 29607
Tel (864) 255-9988

Fax (866) 212-3249

sc420attorney.com
Member of Norml Legal
Committee, Member of
National College for DUI
Defense

W. Benjamin McClain, Jr.,

L.L.C.

Attorney at Law
1306 E. Washington Street
Greenville, S.C. 29607-1840
Phone: (864) 271-9097,
(864) 271-9098

Fax: (864) 271-9099
Email: mcclainwb@gmail.com
Member of NORML Legal
Committee

TEXAS

Jamie "The Dude" Balagia

Offices in Austin and
San Antonio, TX
Board Member-San Antonio
NORML. NORML Legal
Committee. Former "VICE
Cop"-Austin PD State and
Federal representation.
420dude.com
jamie@420dude.com
San Antonio: 210-394-3833
Austin: 512-278-0935

Blackburn & Brown L.L.P.

718 W 16th St.
Amarillo, TX 79101
Phone: 806-371-8333
Fax: 806-350-7716
BlackburnBrownLaw.com
ryan@ipoftexas.org
blackburn@ipoftexas.org

Greg Gladden

3017 Houston Ave.
Houston, TX 77009-6734
713-880-0333
gladden@airmail.net

Gerald Goldstein

2900 Tower Life Bldg.
San Antonio, TX 78205
210-226-1463
GGandH@aol.com

Michael C. Lowe

Attorney At Law
700 N Pearl Street, Ste 2170
Dallas, Texas 75201
214.526.1900
Toll free: 866.351.1900
Fax:214.969.0258

dallasjustice.com

Board certified in criminal
law by the Texas board of legal
specialization

Larry Sauer

Law Offices of Larry Sauer
1004 West Ave
Austin, TX 78701
512-479-5017
austindruglawyer.com
Criminal defense.

WASHINGTON

Jeff Steinborn

P.O. Box 78361
Seattle, WA 98178
Tel: 206-622-5117
Fax:206-622-3848

Pat Stiley

Stiley & Cikutovich
1403 W. Broadway
Spokane, WA 99201
888-440-9001
fudea@earthlink.net
legaljoint.net
If you grew it, we will come.

WASHINGTON D.C.

David E. Kindermann, Esq.

15 W. Montgomery Ave,
Ste. 300
Rockville, MD 20850
Tel: 301-762-7900 – 24/7
Fax: 301-309-0887
kindermannlaw.com
dave@kindermannlaw.com
Licensed in D.C., Maryland
and Federal Courts incl. U.S.
Supreme Court.

WISCONSIN

Robert J. Dvorak

Halling & Cayo
320 E Buffalo St., Ste. 700
Milwaukee, WI 53202
414-271-3400
rjd@hallingcayo.com
Representing the accused
since 1978.

Mark D. Richards S.C.

209 8th Street
Racine, WI 53403
262-632-2200
richardslaw@ameritech.net
richardslaw1.com
Aggressive drug defense.

WHY IS IMPAK THE LEADER IN PACKAGING?



Introducing the Child Resistant Pouch - Easy for You, Tough for Tots

Various Sizes Available Upon Request.

HOME OF THE 420 RX MYLAR BAGS

Serving Biomedical and Pharmaceutical companies since 1993, IMPAK is the leader in providing custom printed bags and complete packaging solutions for all cannabis products.



Protect Your Privacy

Need to block a phone signal? Our thickest material provides a barrier protection that keeps even the strongest cell phone signal off the map.



Prerolls and Syringes

Stand out from the competition by customizing your packaging with color, size, and artwork. Request free samples of our stock bags.

Contact Jessica at (310)715-6600 x 154 or jmorales@sorbentsystems.com
sorbentsystems.com/scentshield.html

IMPAK
 sorbentsystems.com

**CANNABIS
COLLECTION**
HANDMADE JEWELRY

Rings & Bracelets
Semi-precious stoned
in Sterling or Alpaca Silver

Check us out online at
funkyneworleans.com



**by funk
New Orleans.com**





Styles for Men & Women

(504) 313-8937

**Disclaimer: No buds were harmed, nor burned in the making of this ad!



Pot Shots

Show us what you got!

E-mail your hi-res digital photographs to mailbag@hightimes.com.

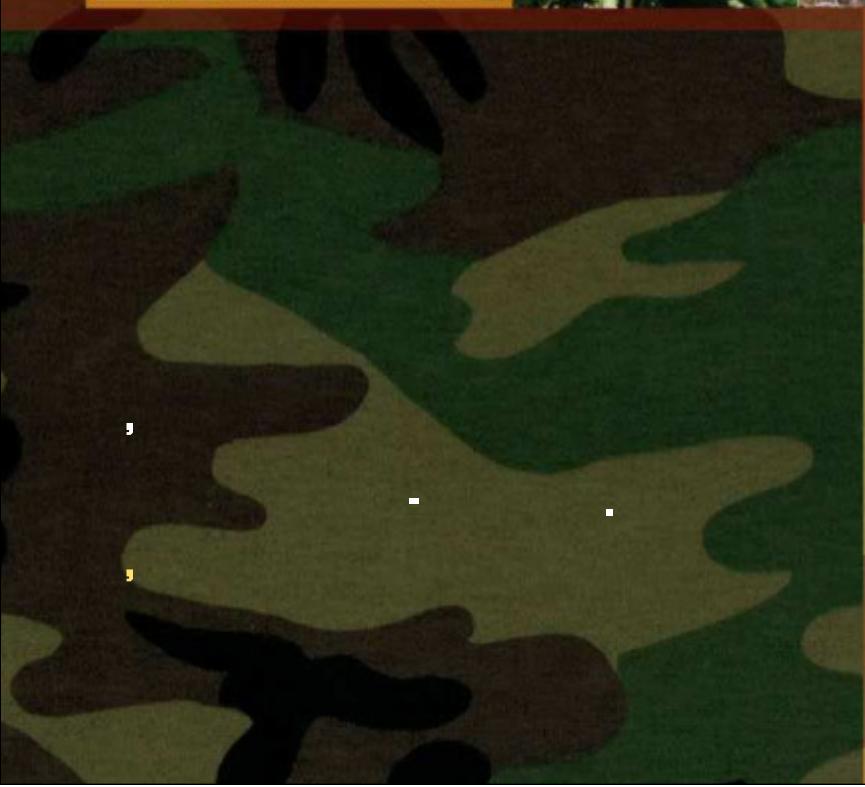
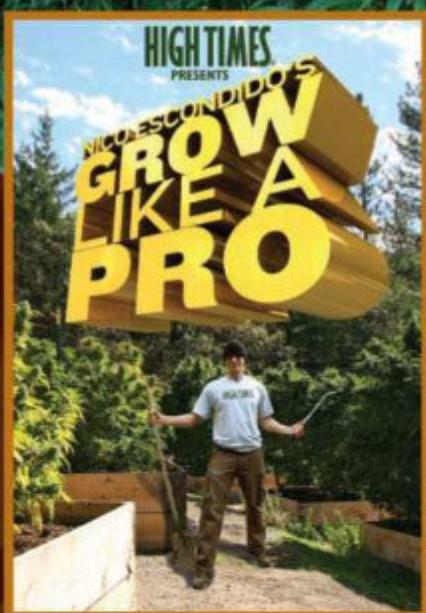


NUG OF THE MONTH

FLOWER POWER

Feel free to publish this photo I took of my own strain called Ghost Berry Haze. JVans







CLOSE-UP OF THE MONTH

WALLY WORLD

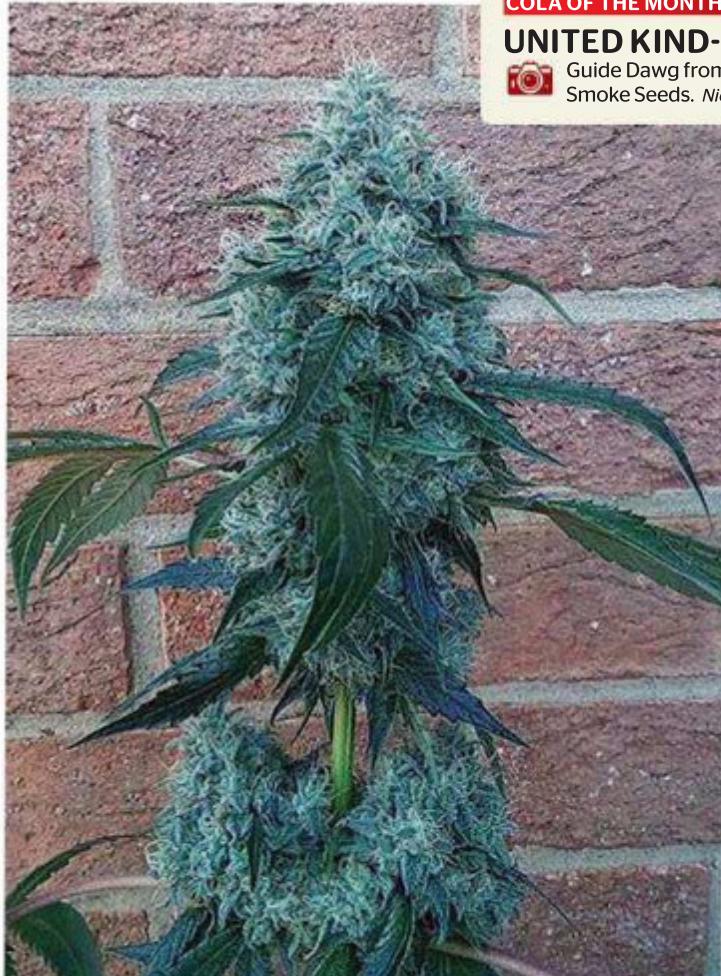
Here's a shot of Wally OG (Phantom OG x Ghost OG) from Kind Pain Management's OG harvest. Cheers! [@fillyoureyes](#)



GROWER OF THE MONTH

GREEN MOUNTAIN HARVEST

Here's a pic of last year's sativa/indica cross breed in a buddy's back yard. I'm 6'1" and not crouching. You may print my face as I'm way too old & sick to care anymore. Thanks! Steve Merrill, North Troy, VT



COLA OF THE MONTH

UNITED KING-DOM

Guide Dawg from Holy Smoke Seeds. [Nick T.](#)



Low Prices, Discrete Packaging, & Same Day Shipping.

GROW LIGHTS

All systems receive FREE light hangers & timer

**HPS / MH
LIGHT SYSTEMS**



From \$179.99

**DOUBLE ENDED
LIGHT SYSTEMS**



From \$367.99

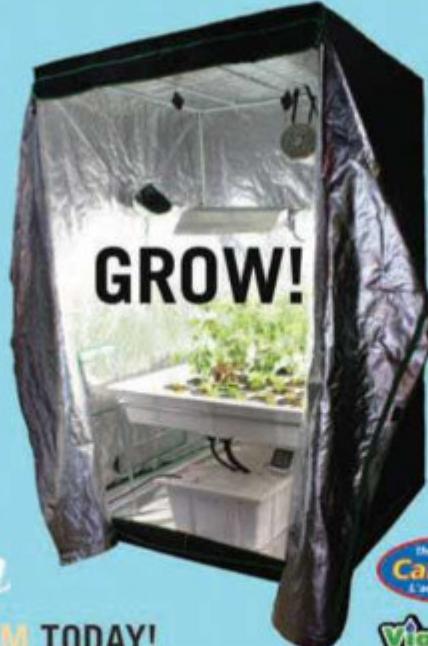
**LED
LIGHT SYSTEMS**



From \$595.00

HYDROWHOLESALE .com

CALL 866.803.2100 OR VISIT HYDROWHOLESALE.COM TODAY!



The Original
Can-Fan
L'authentique

Viegrow®

DrugTestCheats has gone **RESPECTABLE!**
From now on, we are **DeToxClear!**

WE CARRY THE LEADING DRUG TESTING PRODUCTS AT
DISCOUNTED PRICES!

TOP SELLING DETOX PRODUCTS

- DRINKS • SHAMPOOS
- MOUTHWASHES

WORLD'S LEADING SYNTHETIC URINES

- POWDER OR PREMIXED

MOST POPULAR URINE SUBSTITUTION KITS

We Have the GoNumber 1

1-800-975-1466

www.DETOXCLEAR.com

FREE SHIPPING

**CASH CROP GROW BOX
FROM DEALZER.COM**

PREMIUM
QUALITY



only
\$449

Buy Now

Free Shipping
Lifetime warranty & Tech Support
Call Us Now @ 888-HYDRO-81

CHOOSE FROM A 2 FOOT OR 3 FOOT TALL MODEL

DEALZER

December 2015

HIGH TIMES

Products with 420 Uses



Bags.
Scissors.
Racks.
ISO 99%.

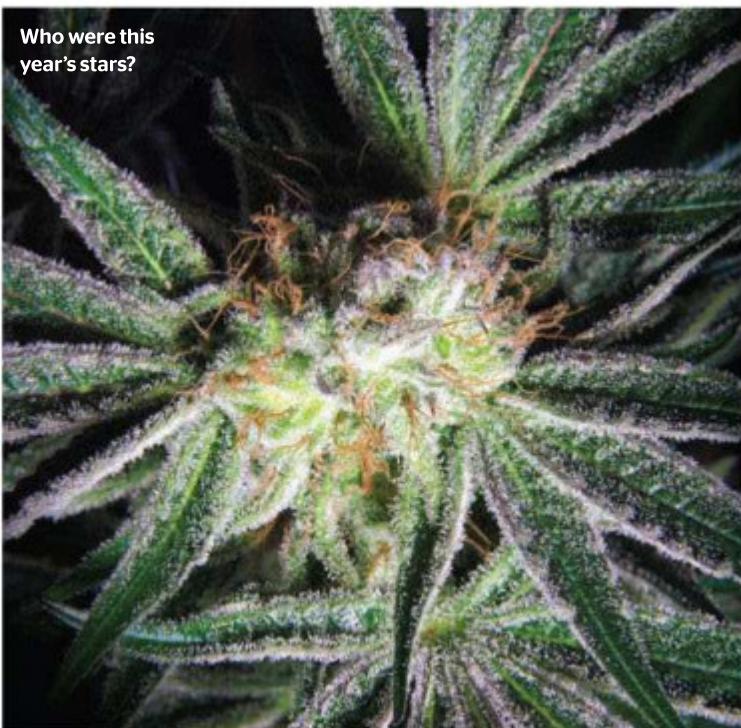


Your harvest. Our tools.
We've got you covered.

thegreenscissor.com

Purchase The Green Scissor products at Hydroponics,
Garden Supply & Smoke Shop retailers nationwide.

Who were this
year's stars?



► **The Top 10 Strains of 2015**

What a great year for ganja! Senior cultivation editor Danny Danko sorts through a treasure chest of the tantalizing strains that tickled our pot palates and dominated the awards at the High Times Cannabis Cups.

► **Harvest With Jorge!**

Cultivation legend Jorge Cervantes lays out his encyclopedic knowledge on the subject of reaping bountiful buds—everything from determining when and how to harvest to the art of maintaining aroma, flavor and potency.

► **LA Stars**

Although the city of Los Angeles hasn't always been friendly to the medical marijuana industry, some dispensaries are making a name for themselves. *High Times* editor-in-chief Dan Skye visits two top outfits: AHHS and Greenwolf LA.

► **A Celebration of Hippie Chicks**

Famed rock'n'roll photographer Jay Blakesberg's new book, *Hippie Chick*, spans his illustrious 35-year career to document America's most spirited earth mothers, fire-twirlers, hula-hoopers and female festival-goers. Call it a "visual anthropology" of the counterculture!

► **The Cult of Campbell**

Cult-movie king Bruce Campbell sits down to discuss "Ash vs. Evil Dead," the latest chapter in the classic horror/comedy saga, which debuts as a series this Halloween on Starz. Plus, Campbell tends his own medical marijuana garden that's anything but scary!

The
Single
Seed
Centre

Free Seeds

with **EVERY*** order!

NEW & Bestselling Seedbanks



The following seeds

\$13.67 /each

Bay 11
REG

Bay Dream
REG

Candyland
REG

GrandDaddy Purp
REG

Ken's Kush
REG

Phantom Cookies
REG

OG Kush
REG



The following seeds

\$6.07 /each

AK 49 Auto
FEM

Jack Herer
FEM

Lowryder Auto
FEM

Northern Lights
FEM

NY Diesel
FEM

Super Skunk Auto
FEM

White Widow
FEM

We offer both *single seeds* and full
packs of ten, allowing you to create
your perfect grow room.

Single seeds are dispatched with a portion
of the original product carton. Seeds are
despatched stealthily from Great Britain and you
are billed discreetly. We will replace your seeds
if they do not reach you, whatever the reason!

Seeds
from **\$1.99**
/Seed

DISCREET
BILLING & PACKAGING

GUARANTEED
NO BULL SHIPPING



Subject to fair usage, see website.
Prices correct at time of publication

www.thesingleseedcentre.com

AQUISITION OF LIVE CANNABIS SEEDS IS ILLEGAL IN THE UNITED STATES
PAYABLE IN US DOLLARS FROM ANYWHERE IN THE WORLD



0

No Cannabis Induced Deaths
-A Safer Alternative



Raise Significant
Tax Revenue



WE
ED

Regulated Systems
Will Restrict Youth Access

Let's be HONEST,
It's Time to Tax & Regulate Marijuana
www.norml.org/join



40 YEARS
MORE THAN 420 COVERS
AND ILLUSTRATIONS
1 COUNTERCULTURAL FORCE

High Times\$

A 40-YEAR HISTORY OF
THE WORLD'S MOST
INFAMOUS MAGAZINE

A new coffee-table book chronicling
cannabis' biggest moments—
a celebration of four decades of everyone's
favorite marijuana magazine.

\$45.00

Available at bookstores everywhere!

WWW.HEADSHOP.HIGHTIMES.COM

powerHouseBooks.com

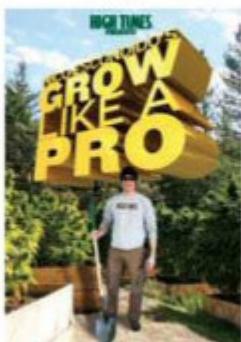
pH powerHouse Books

Featured Products



HIGH TIMES Cultivation Editors' Combo Pack

Set includes Jorge Cervantes' *Ultimate Grow Box Set*, Nico Escondido's *Grow Like a Pro*, and Danny Danko's *Field Guide to Marijuana Strains*. An \$85 value for only \$69.99!



HIGH TIMES Presents Nico Escondido's Grow Like a Pro DVD

Featuring over two hours of comprehensive cultivation coverage and bonus material, this HD-film features footage of America's top medical grow facilities, indoor and outdoor-growing and greenhouse techniques. \$19.95



Official HIGH TIMES Bonghitters Jersey

Show your pot pride by sporting the same shirts worn by the legendary High Times Bonghitters Softball team. Sizes: S-XXL. \$19.95



Ready Set Grow 1 & 2 DVD Set

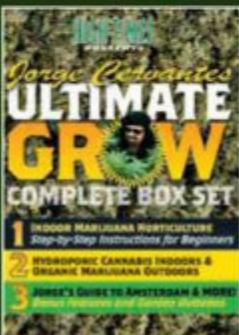
The ONLY DVDs you NEED to grow great WEED! \$34.99



Back Issues of HIGH TIMES

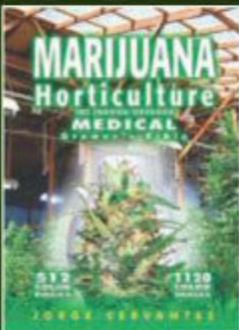
Lots of issues available! HIGH TIMES: \$5.99; Best Of HIGH TIMES: \$6.99; HIGH TIMES: Medical Marijuana: \$5.99

Classics from master grower Jorge Cervantes



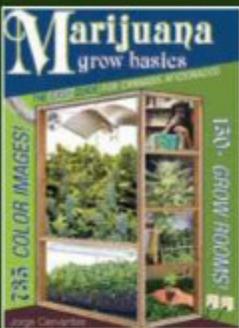
Ultimate Grow DVD Complete Box Set

Three-disc DVD box set includes *Ultimate Grow: Indoor Marijuana Horticulture*, and *Ultimate Grow 2: Hydroponic Cannabis Indoors & Organic Marijuana Outdoors*, Plus a full disc of bonus features! \$49.95



Marijuana Horticulture

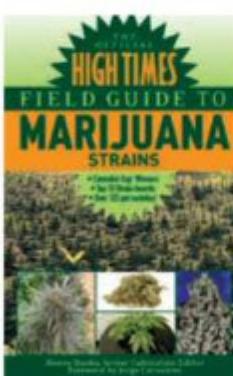
The Fifth Edition of Jorge Cervantes' best-selling book, completely rewritten, updated and expanded! \$29.95



Marijuana Grow Basics

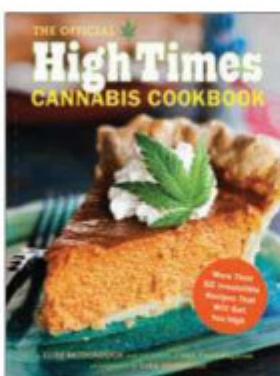
This informative guide is packed with illustrations and photos of more than 150 affordable marijuana grow setups. \$21.95

High Times Books



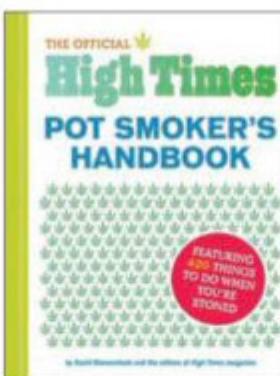
The Official HIGH TIMES Field Guide to Marijuana Strains By Danny Danko

This cannabis compendium covers the world's top pot varieties—all meticulously researched and lovingly described in terms ranging from odors and flavors to potency levels and medicinal properties. \$14.95



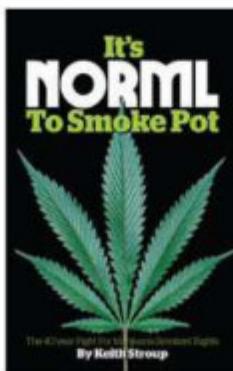
The Official HIGH TIMES Cannabis Cookbook by Elise McDonough

Go way beyond the brownie and master your munchies with over 50 recipes for stoner cuisine that will get you high—including recipes inspired by Cheech and Chong, Snoop Dogg and Willie Nelson. \$19.95



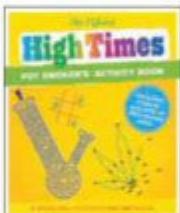
The Official HIGH TIMES Pot Smoker's Handbook by David Bienenstock

This handbook rolls up all of our collected wisdom into one indispensable ganja guide. With a life-changing list of 420 things to do when you're stoned, this is truly the ultimate guide to green living. \$19.95



It's NORML To Smoke Pot: The 40-Year Fight For Marijuana Smokers' Rights By Keith Stroup

The story of NORML, the oldest and most effective organization dedicated to the reform of marijuana laws, told by its founder and leader. If you believe in the principle of civil liberties, then Keith Stroup is a true American hero. \$14.99



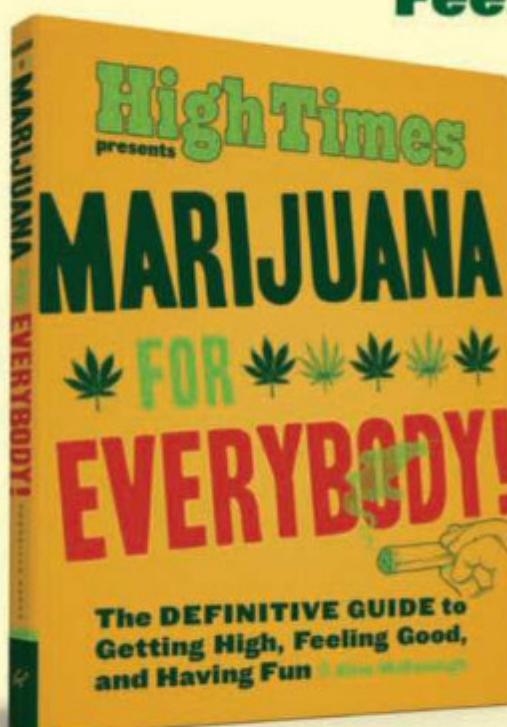
The Official HIGH TIMES Pot Smoker's Activity Book by Natasha Lewin

Smoke, play, laugh and learn all at the same time! Packed with puzzles, games, mazes, and jokes. It's what to do when you're stoned! \$16.95

HighTimes
presents

MARIJUANA FOR EVERYBODY!

The **DEFINITIVE GUIDE** to Getting High,
Feeling Good, and Having Fun



Designed to guide new initiates and seasoned heads alike with:

- Hands-on tips and tricks for grinding, rolling, storing, and more
- Expert ways to manage your high
- Cooking with Cannabis

Plus an 'I'm High, Now What?' selection of activities and amusements for the freshly baked.

...
Use code
HIGHTIMES at
CHRONICLEBOOKS.COM
for 25% off & free
US ground shipping!
...



CHRONICLE BOOKS

The POTATO



Thanksgiving! GIVE THANKS for the Blessed WEED



Submit your ideas by email to: pot40@hightimes.com



What would you like to see on the Pot 40? Write your ideas on this ballot and mail to:

HIGH TIMES
Pot 40
250 West 57th Street, Suite 920
New York City, NY 10107

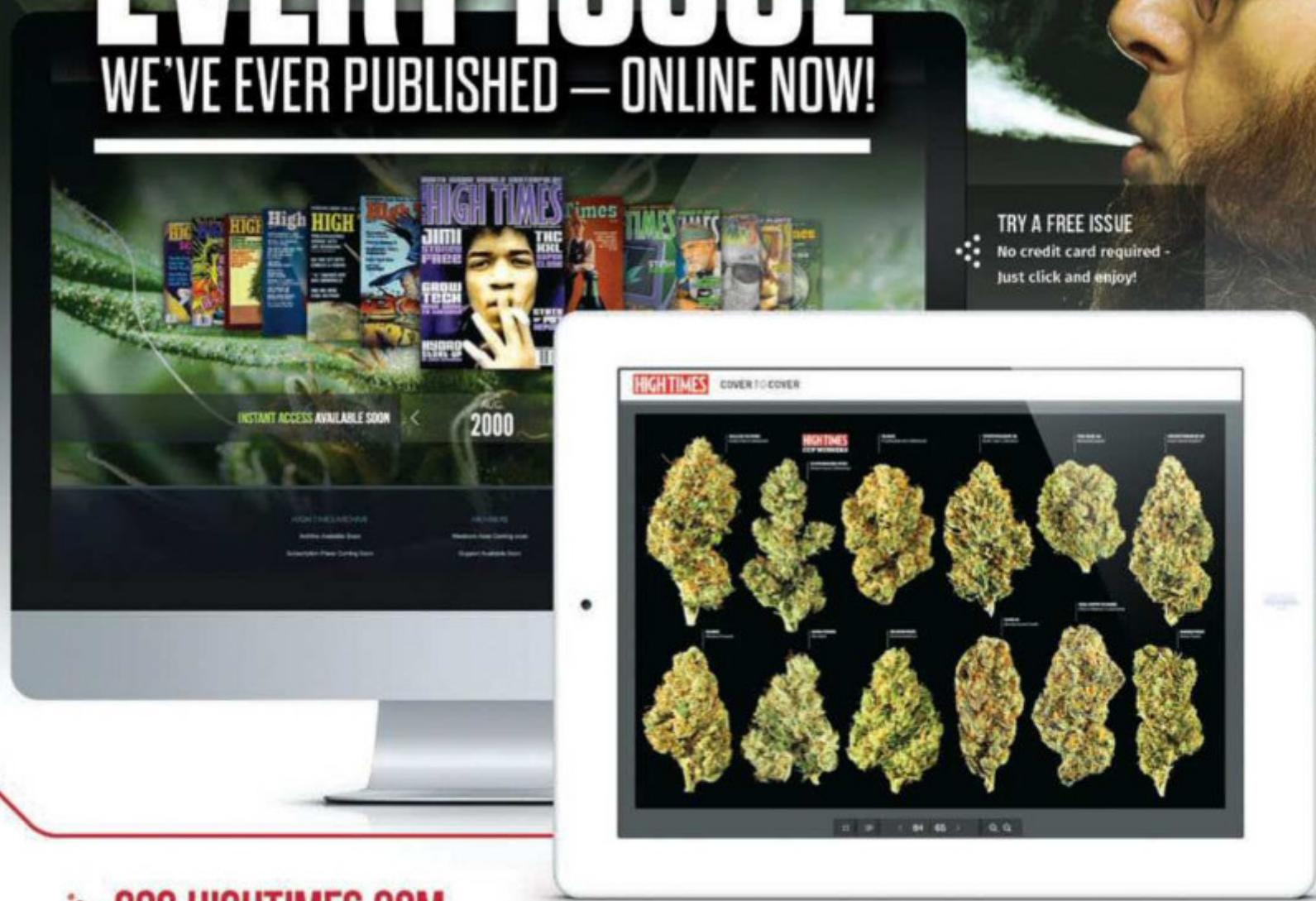
Compiled by Jen Bernstein and Mike Hughes / Cartoons by *Cosmo NYC*

HIGHTIMES®

COVER TO COVER

EVERY ISSUE

WE'VE EVER PUBLISHED — ONLINE NOW!



TRY A FREE ISSUE
No credit card required -
Just click and enjoy!

» C2C.HIGHTIMES.COM

For the first time get exclusive online access to every issue of High Times® ever published—all 40 years. That's more than 60,000 pages loaded with all of the 420 you can handle!

Updated with each new issue, High Times® Cover to Cover includes over 400 issues and is the definitive reference destination for marijuana enthusiasts, pro growers and everyone following the legalization updates.

Use the powerful search tool to quickly find and sort thousands of articles, reviews and do it yourself methods to grow like a pro.

Subscribe now and get every Cannabis Cup® rundown, Stash Award list and articles from special contributors including Charles Bukowski, William S. Burroughs, Truman Capote, Hunter S. Thompson and Andy Warhol.



High Times® Cover to Cover is powered by Bondi
©2014 High Times. All Rights reserved.

C2C.HIGHTIMES.COM
UPDATED WITH EACH NEW ISSUE



HIGH TIMES

CANNABIS CUP™

ACTIVISM
EXPO
SEMINARS

MUSICAL
PERFORMANCES

COMPETITION
MUSIC
PARTIES

AWARD
CEREMONY



VENUE
— TO BE —
ANNOUNCED

Oregon

SEP 19-20
2015

GET TICKETS AT CANNABISCUP.COM

Puffing the Highest
Quality

TASTY PUFFTM

e-Juice



NEW

LARGER BOTTLE

with needle tip.

Child safety and tamper evident cap

Get a **FREE** bottle of e-juice with purchase of a vapor cigarette!

Visit www.tastypuff.com for details

OLD SCHOOL

BREEDERS ASSOCIATION

WWW.OLDSCHOOLBA.COM

King Regular \$100

Kings Crown \$100

Kings Crown X Thai \$80

Kings Ransom \$100

Kings Ransom X Nevil's Haze 21 \$225

Kodiak Gold X Mango 0 call

Kushcicle AKA Resin Factory \$100

Love Potion #2 X Nevil's Haze 21 \$225

Love Potion Next Gen \$75

Mad Kush \$50

Malawi Gold X Thai \$150

Maple Kush \$69

Master Kush \$80

Master Kush x Train Wreck \$80

Tajakastani \$80

Moose Jaw Madness \$70

Nevils Haze #21 X Early Mullimbimby Madness \$225

Nevils Haze #23 X (Skunk X Mullimbimby Madness) \$225

\$100 OG Kush \$100

Afghani Pakistan Hash Plant \$80

Afpak X Sour Diesel call

Afpak: Afghani Pakistan Hash Plant X Skunk \$80

BC Mango X NH21 \$225

Big Bud X C99 \$80

Black Tuna \$100

Black Willie \$125

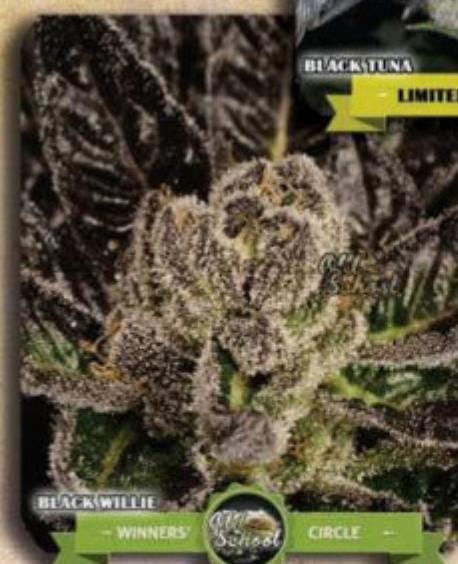
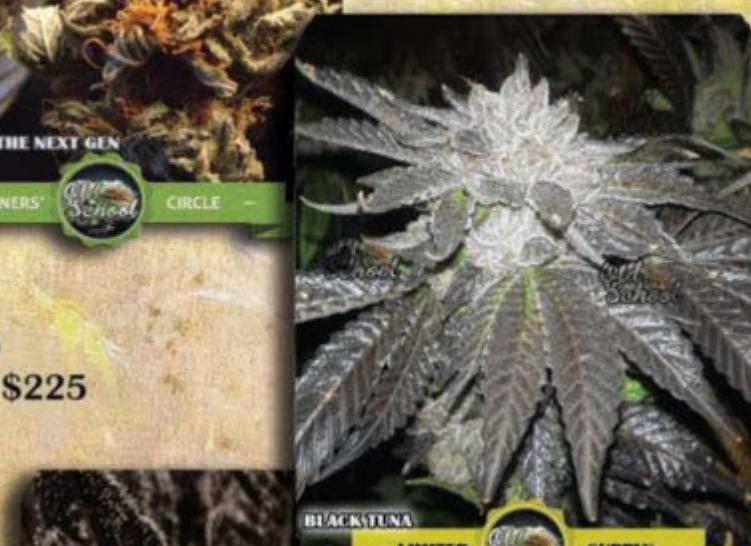
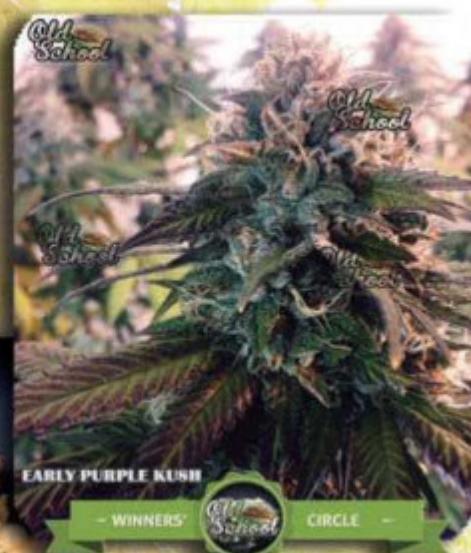
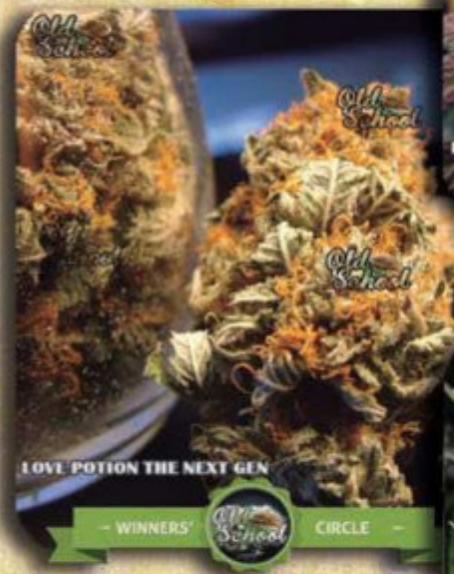
Bubba Rock X C99 \$80

Bubba X Skunk \$80

Bubble Gum Indica \$65

Cambodian Haze \$80

Charlotte's Web Pheno \$150



100%
Satisfaction
Guarantee

100%
Delivery
Guarantee

MEDICINALMSS.COM SEED WORLD ORDER FORM

for LOTS MORE visit our website, send us an email or give us a call!

In North America Toll Free:

1-855-425-3437

Email: sales@medicinalmss.com

Outside North America Call:

00+1+604-357-4793

We accept ALL competitors valid coupons and we will match ALL valid competitors offers

Use this order form.
For larger orders, please print clearly
and indicate the following on a
sheet of paper:

-name(s)
-sex (reg or fem.)
-quantity
-price
-shipping rate
-order total

Send with **BLANK** Money Order
or Cash for the total amount to:

R.M.S.S.
PO BOX 21648
Vancouver, BC
Canada V5L 3X0

Product	Reg/ Fem.	Number of Packs	Total Price (Price X QTY)
Sub-Total			
Reg. S&H (\$7.00)			
Promo Code Discount			
Express \$30/Oversight \$75			
TOTAL \$ Enclosed:			

*10 FREE Seeds with CASH Orders!



We Accept
(Please Phone)



REEFERMAN GENETICS PRESENT

ACCOMPONG MAROON Signature Series Seeds

Lambs Breath



Jamaican Lion

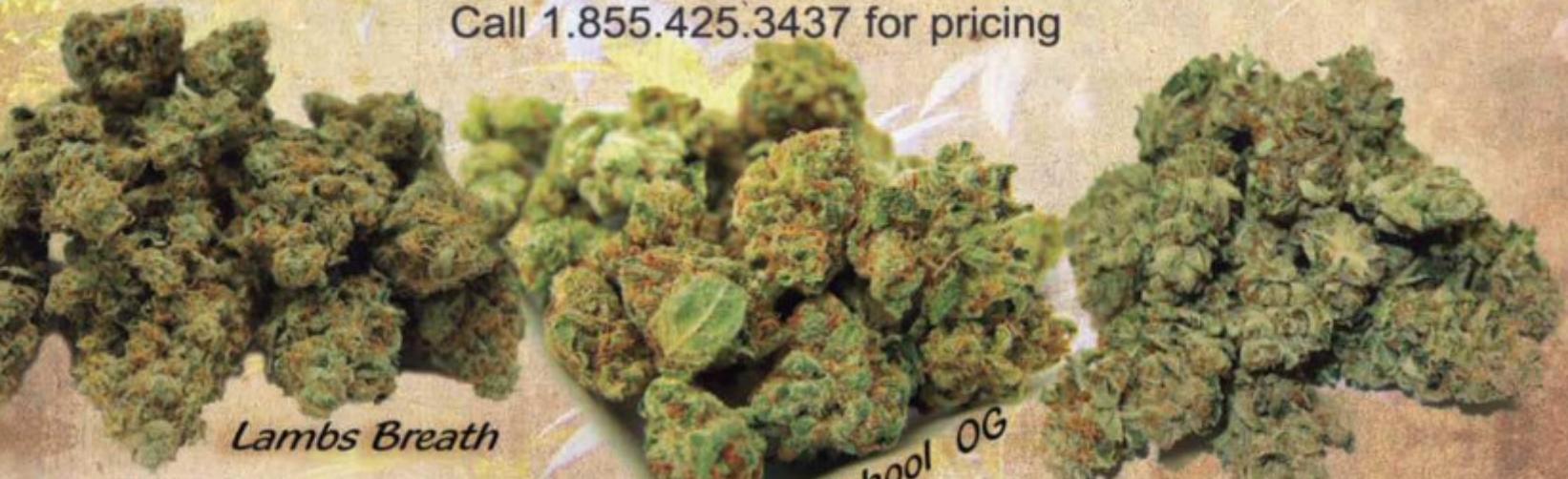


Natural Mystic



Introducing the sovereign State of Accompong Signature Series Seeds , 3 high CBD strains grown in the mountains of Accompong by the Trelawny Town Maroons for 277 years

Call 1.855.425.3437 for pricing



Lambs Breath

Northern Lights X Skunk call

OG Kush X NH21 \$225

OG Kush X Thai \$80

Orig. Haze x Skunk \$80

Pig OG \$80

Pig OG x Train Wreck \$80

Pineapple 🍍 call

Pink Kush 🏆 \$125

Purple Crown \$100

RMG Cherry Bomb \$90

RMG -Triple Crown Collection - AAA \$300

RockStar Kush \$55

Silverback Gorilla \$80

Sour Diesel x Skunk \$90

Sour Diesel X Cinderella 99 \$70

TAZ call

Tropical Haze \$60

Tuna Kush \$100

Victory Auto Flowering Industrial Hemp \$33

Zen Hash Plant (F) \$100

Old School OG

Tajakastani

Chemo UBC Cut Feminized \$80

Col. K Kush \$100

Early Appalachian \$80

Early Purple Kush 🏆 \$150

Freezeland Cross \$50

G13 Chem Dog \$100

G13 Alpha Dawg \$80

G13: Greenhouse 13 x Skunk \$80

Golden Temple Kush \$100

Grand Daddy Purple \$100

Grand Daddy Purple X Cinderella 99 \$80

Harlequin CBD \$100

Harmony \$59

Harmony X Thai \$70

Hindu Kush \$50

Hippie Crippler \$80

Island Sweet Skunk X Skunk \$80

JoJo Kush \$50



100 % REEFERMAN GENETICS

OLDSCHOOLBA.COM

MEDICINALMSS.COM

REEFERMANGENETICS.COM

AI VACUUM OVENS

- WINNERS' CHOICE -

HIGH TIMES



@AcrossIntl

AI's award winning vacuum ovens are the No.1 choice for cup champions*. They are your BEST choice for curing and converting botanical extracts. With deep vacuum level they can operate at temperatures which allow evaporation and degassing/purging to occur rapidly. This increases productivity and ensures the production of superior quality products with minimal processing time.

Check out our 3.2 and 7.5 cubic foot ovens with new **internal shelf heating technology**: each shelf in these ovens has its own heater, **in-shelf temperature sensor** and temperature controller; together with high quality thermal-conducted aluminum and our new low proportional controller technology, the result is perfect uniformity, accurate temperatures, super-fast heating rates, minimum heat loss/exterior temperature and ultra-low power consumption.

Our newly re-designed ELITE series vacuum ovens feature 5-sided jacket heating system that gives you **an industry leading 3% temperature uniformity across all shelves**, they also provide excellent temperature accuracy, exceptional build quality, and fast heating rates, covered by an industry best **2-year warranty**.

* Check our Instagram posts for a list of winners



Re-designed Elite 4.4 Cu Ft 20x20x20" vacuum ovens with 5-sided jacket heating, adjustable gas back-fill and 6 aluminum shelves

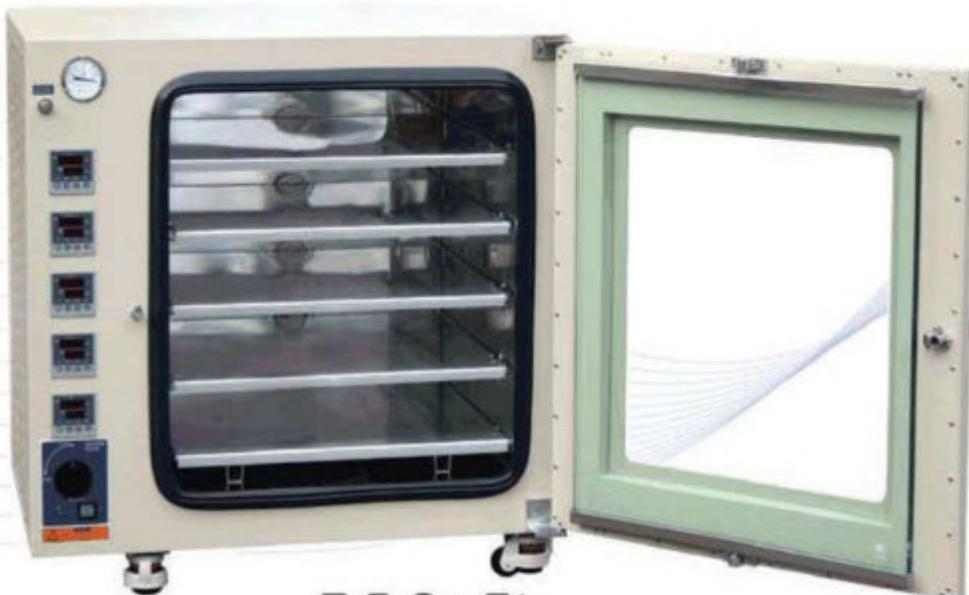


Edwards vacuum pumps and accessories

Welch diaphragm pumps and accessories



AccuTemp 1.9 Cu Ft 16x14x14" vacuum ovens with 4 sided heating, adjustable gas back-fill, 3rd gen LCD low temp controller and 5 aluminum pan shelves



7.5 Cu Ft

AccuTemp-75 22x24x25" vacuum ovens with 5 heated shelves, 5 in-shelf temperature sensors, 5 controllers and adjustable gas back-fill capability



AI NEW JERSEY: 111 Dorsa Ave, Livingston, NJ 07039

AI NEVADA: 1197 Greg St, Sparks, NV 89431

888-988-0899 info@AcrossInternational.com



ACROSS INTERNATIONAL

Material processing equipment